

FOUR PLACE TABLES

UNABRIDGED EDITION

E. V. HUNTINGTON

Edmund Collis Bradley

Conversion Tables

I	O	II	O
0' = 0° 00 000	0" = 0° 00 000	0' = 0° 00 000	0" = 0° 00 000
1' .01 666..	1" .00 027..	1' .01 666..	1" .00 027..
2' .03 333..	2" .00 055..	2' .03 333..	2" .00 055..
3' .05	3" .00 083..	3' .05	3" .00 083..
4' .06 666..	4" .00 111..	4' .06 666..	4" .00 111..
5' .08 333..	5" .00 138..	5' .08 333..	5" .00 138..
6' .10	6" .00 166..	6' .10	6" .00 166..
7' .11 666..	7" .00 194..	7' .11 666..	7" .00 194..
8' .13 333..	8" .00 222..	8' .13 333..	8" .00 222..
9' .15	9" .00 25	9' .15	9" .00 25
10' 0° 16 666..	10" 0° 00 277..	10' 0° 16 666..	10" 0° 00 277..
1 .18 333..	1 .00 305..	1 .18 333..	1 .00 305..
2 .20	2 .00 333..	2 .20	2 .00 333..
3 .21 666..	3 .00 361..	3 .21 666..	3 .00 361..
4 .23 333..	4 .00 388..	4 .23 333..	4 .00 388..
15' .25	15" .00 416..	15' .25	15" .00 416..
6 .26 666..	6 .00 444..	6 .26 666..	6 .00 444..
7 .28 333..	7 .00 472..	7 .28 333..	7 .00 472..
8 .30	8 .00 5	8 .30	8 .00 5
9 .31 666..	9 .00 527..	9 .31 666..	9 .00 527..
20' 0° 33 333..	20" 0° 00 555..	20' 0° 33 333..	20" 0° 00 555..
1 .35	1 .00 583..	1 .35	1 .00 583..
2 .36 666..	2 .00 611..	2 .36 666..	2 .00 611..
3 .38 333..	3 .00 638..	3 .38 333..	3 .00 638..
4 .40	4 .00 666..	4 .40	4 .00 666..
25' .41 666..	25" .00 694..	25' .41 666..	25" .00 694..
6 .43 333..	6 .00 722..	6 .43 333..	6 .00 722..
7 .45	7 .00 75	7 .45	7 .00 75
8 .46 666..	8 .00 777..	8 .46 666..	8 .00 777..
9 .48 333..	9 .00 805..	9 .48 333..	9 .00 805..
30' 0° 50	30" 0° 00 833..	30' 0° 50	30" 0° 00 833..
1 .51 666..	1 .00 861..	1 .51 666..	1 .00 861..
2 .53 333..	2 .00 888..	2 .53 333..	2 .00 888..
3 .55	3 .00 916..	3 .55	3 .00 916..
4 .56 666..	4 .00 944..	4 .56 666..	4 .00 944..
35' .58 333..	35" .00 972..	35' .58 333..	35" .00 972..
6 .60	6 .01	6 .60	6 .01
7 .61 666..	7 .01 027..	7 .61 666..	7 .01 027..
8 .63 333..	8 .01 055..	8 .63 333..	8 .01 055..
9 .65	9 .01 083..	9 .65	9 .01 083..
40' 0° 66 666..	40" 0° 01 111..	40' 0° 66 666..	40" 0° 01 111..
1 .68 333..	1 .01 138..	1 .68 333..	1 .01 138..
2 .70	2 .01 166..	2 .70	2 .01 166..
3 .71 666..	3 .01 194..	3 .71 666..	3 .01 194..
4 .73 333..	4 .01 222..	4 .73 333..	4 .01 222..
45' .75	45" .01 25	45' .75	45" .01 25
6 .76 666..	6 .01 277..	6 .76 666..	6 .01 277..
7 .78 333..	7 .01 305..	7 .78 333..	7 .01 305..
8 .80	8 .01 333..	8 .80	8 .01 333..
9 .81 666..	9 .01 361..	9 .81 666..	9 .01 361..
50' 0° 83 333..	50" 0° 01 388..	50' 0° 83 333..	50" 0° 01 388..
1 .85	1 .01 416..	1 .85	1 .01 416..
2 .86 666..	2 .01 444..	2 .86 666..	2 .01 444..
3 .88 333..	3 .01 472..	3 .88 333..	3 .01 472..
4 .90	4 .01 5	4 .90	4 .01 5
55' .91 666..	55" .01 527..	55' .91 666..	55" .01 527..
6 .93 333..	6 .01 555..	6 .93 333..	6 .01 555..
7 .95	7 .01 583..	7 .95	7 .01 583..
8 .96 666..	8 .01 611..	8 .96 666..	8 .01 611..
9 .98 333..	9 .01 638..	9 .98 333..	9 .01 638..
60' 1° 00	60" 0° 01 666..	60' 1° 00	60" 0° 01 666..

The dots (.) indicate that the last figure repeats indefinitely.

1° = 0.01 745 329 radians
 1' = 0.00 029 088 8 radians
 1" = 0.00 000 484 814 radians

From Decimal Parts of a Degree into Minutes and Seconds (Exact Values)

0° 00 = 0' 00"	0° 50 = 30'
1 0' 36"	1 30' 36"
2 1' 12"	2 31' 12"
3 1' 48"	3 31' 48"
4 2' 24"	4 32' 24"
0° 05 3'	0° 55 33'
6 3' 36"	6 33' 36"
7 4' 12"	7 34' 12"
8 4' 48"	8 34' 48"
9 5' 24"	9 35' 24"
0° 10 6'	0° 60 36'
1 6' 36"	1 36' 36"
2 7' 12"	2 37' 12"
3 7' 48"	3 37' 48"
4 8' 24"	4 38' 24"
0° 15 9'	0° 65 39'
6 9' 36"	6 39' 36"
7 10' 12"	7 40' 12"
8 10' 48"	8 40' 48"
9 11' 24"	9 41' 24"
0° 20 12'	0° 70 42'
1 12' 36"	1 42' 36"
2 13' 12"	2 43' 12"
3 13' 48"	3 43' 48"
4 14' 24"	4 44' 24"
0° 25 15'	0° 75 45'
6 15' 36"	6 45' 36"
7 16' 12"	7 46' 12"
8 16' 48"	8 46' 48"
9 17' 24"	9 47' 24"
0° 30 18'	0° 80 48'
1 18' 36"	1 48' 36"
2 19' 12"	2 49' 12"
3 19' 48"	3 49' 48"
4 20' 24"	4 50' 24"
0° 35 21'	0° 85 51'
6 21' 36"	6 51' 36"
7 22' 12"	7 52' 12"
8 22' 48"	8 52' 48"
9 23' 24"	9 53' 24"
0° 40 24'	0° 90 54'
1 24' 36"	1 54' 36"
2 25' 12"	2 55' 12"
3 25' 48"	3 55' 48"
4 26' 24"	4 56' 24"
0° 45 27'	0° 95 57'
6 27' 36"	6 57' 36"
7 28' 12"	7 58' 12"
8 28' 48"	8 58' 48"
9 29' 24"	9 59' 24"
0° 50 30'	1° 00 60'
0° 000 = 0° 0	
1 3"	1 3"
2 7".2	2 7".2
3 10".8	3 10".8
4 14".4	4 14".4
0° 005 18"	
6 21".6	
7 25".2	
8 28".8	
9 32".4	
0° 010 36"	

Decimal Equivalents of Common Fractions (Exact Values)

	1/64	.01 5625
1/32	3/64	.03 125
1/16	5/64	.04 6875
	7/64	.06 25
3/32	9/64	.07 8125
1/8	11/64	.09 375
	13/64	.10 9375
5/32	15/64	.12 5
	17/64	.14 0625
3/16	19/64	.15 625
	21/64	.17 1875
7/32	23/64	.18 75
	25/64	.20 3125
1/4	27/64	.21 875
	29/64	.23 4375
9/32	31/64	.25
	33/64	.26 5625
5/16	35/64	.28 125
	37/64	.29 6875
11/32	39/64	.31 25
	41/64	.32 8125
3/8	43/64	.34 375
	45/64	.35 9375
13/32	47/64	.37 5
	49/64	.39 0625
7/16	51/64	.40 625
	53/64	.42 1875
15/32	55/64	.43 75
	57/64	.45 3125
1/2	59/64	.46 875
	61/64	.48 4375
17/32	63/64	.50
	65/64	.51 5625
9/16	67/64	.53 125
	69/64	.54 6875
19/32	71/64	.56 25
	73/64	.57 8125
5/8	75/64	.59 375
	77/64	.60 9375
11/16	79/64	.62 5
	81/64	.64 0625
23/32	83/64	.65 625
	85/64	.67 1875
3/4	87/64	.68 75
	89/64	.70 3125
25/32	91/64	.71 875
	93/64	.73 4375
13/16	95/64	.75
	97/64	.76 5625
27/32	99/64	.78 125
	101/64	.79 6875
7/8	103/64	.81 25
	105/64	.82 8125
29/32	107/64	.84 375
	109/64	.85 9375
15/16	111/64	.87 5
	113/64	.89 0625
31/32	115/64	.90 625
	117/64	.92 1875
	119/64	.93 75
	121/64	.95 3125
	123/64	.96 875
	125/64	.98 4375

1 radian = 57°.29578

(34-10-21)

4-14

$$(1+i)^n$$

AMOUNT OF 1 IN N YEARS

1

ECB
Prod.
V

	2½%	3%	3½%	4%	4½%	5%	6%
1	1.02500	1.03000	1.03500	1.04000	1.04500	1.05000	1.06000
2	1.05063	1.06090	1.07123	1.08160	1.09203	1.10250	1.12360
3	1.07689	1.09273	1.10872	1.12486	1.14117	1.15763	1.19102
4	1.10381	1.12551	1.14752	1.16986	1.19252	1.21551	1.26248
5	1.13141	1.15927	1.18769	1.21665	1.24618	1.27628	1.33823
6	1.15969	1.19405	1.22926	1.26532	1.30226	1.34010	1.41852
7	1.18869	1.22987	1.27228	1.31593	1.36086	1.40710	1.50363
8	1.21840	1.26677	1.31681	1.36857	1.42210	1.47746	1.59385
9	1.24886	1.30477	1.36290	1.42331	1.48610	1.55133	1.68948
10	1.28008	1.34392	1.41060	1.48024	1.55297	1.62889	1.79085
11	1.31209	1.38423	1.45997	1.53945	1.62285	1.71034	1.89830
12	1.34489	1.42576	1.51107	1.60103	1.69588	1.79586	2.01220
13	1.37851	1.46853	1.56396	1.66507	1.77220	1.88565	2.13293
14	1.41297	1.51259	1.61869	1.73168	1.85194	1.97993	2.26090
15	1.44830	1.55797	1.67535	1.80094	1.93528	2.07893	2.39656
16	1.48451	1.60471	1.73399	1.87298	2.02237	2.18287	2.54035
17	1.52162	1.65285	1.79468	1.94790	2.11338	2.29202	2.69277
18	1.55966	1.70243	1.85749	2.02582	2.20848	2.40662	2.85434
19	1.59865	1.75351	1.92250	2.10685	2.30786	2.52695	3.02560
20	1.63862	1.80611	1.98979	2.19112	2.41171	2.65330	3.20714
21	1.67958	1.86029	2.05943	2.27877	2.52024	2.78596	3.39956
22	1.72157	1.91610	2.13151	2.36992	2.63365	2.92526	3.60354
23	1.76461	1.97359	2.20611	2.46472	2.75217	3.07152	3.81975
24	1.80873	2.03279	2.28333	2.56330	2.87601	3.22510	4.04893
25	1.85394	2.09378	2.36324	2.66584	3.00543	3.38635	4.29187
26	1.90029	2.15659	2.44596	2.77247	3.14068	3.55567	4.54938
27	1.94780	2.22129	2.53157	2.88337	3.28201	3.73346	4.82235
28	1.99650	2.28793	2.62017	2.99870	3.42970	3.92013	5.11169
29	2.04641	2.35657	2.71188	3.11865	3.58404	4.11614	5.41839
30	2.09757	2.42726	2.80679	3.24340	3.74532	4.32194	5.74349
31	2.15001	2.50008	2.90503	3.37313	3.91386	4.53804	6.08810
32	2.20376	2.57508	3.00671	3.50806	4.08998	4.76494	6.45339
33	2.25885	2.65234	3.11194	3.64838	4.27403	5.00319	6.84059
34	2.31532	2.73191	3.22086	3.79432	4.46636	5.25335	7.25103
35	2.37321	2.81386	3.33359	3.94609	4.66735	5.51602	7.68609
36	2.43254	2.89828	3.45027	4.10393	4.87738	5.79182	8.14725
37	2.49335	2.98523	3.57103	4.26809	5.09686	6.08141	8.63609
38	2.55568	3.07478	3.69601	4.43881	5.32622	6.38548	9.15425
39	2.61957	3.16703	3.82537	4.61637	5.56590	6.70475	9.70351
40	2.68506	3.26204	3.95926	4.80102	5.81636	7.03999	10.28572
41	2.75219	3.35990	4.09783	4.99306	6.07810	7.39199	10.90286
42	2.82100	3.46070	4.24126	5.19278	6.35162	7.76159	11.55703
43	2.89152	3.56452	4.38970	5.40050	6.63744	8.14967	12.25045
44	2.96381	3.67145	4.54334	5.61652	6.93612	8.55715	12.98548
45	3.03790	3.78160	4.70236	5.84118	7.24825	8.98501	13.76461
46	3.11385	3.89504	4.86694	6.07482	7.57442	9.43426	14.59049
47	3.19170	4.01190	5.03728	6.31782	7.91527	9.90597	15.46592
48	3.27149	4.13225	5.21359	6.57053	8.27146	10.40127	16.39387
49	3.35328	4.25622	5.39606	6.83335	8.64367	10.92133	17.37750
50	3.43711	4.38391	5.58493	7.10668	9.03264	11.46740	18.42015

v^m

PRESENT VALUE OF 1 PAYABLE AT THE END OF N YEARS.

	2½%	3%	3½%	4%	4½%	5%	6%
1	.97561	.97087	.96618	.96154	.95694	.95238	.94340
2	.95181	.94260	.93351	.92456	.91573	.90703	.89000
3	.92860	.91514	.90194	.88900	.87630	.86384	.83962
4	.90595	.88849	.87144	.85480	.83856	.82270	.79209
5	.88385	.86261	.84197	.82193	.80245	.78353	.74726
6	.86230	.83748	.81350	.79031	.76790	.74622	.70496
7	.84127	.81309	.78599	.75992	.73483	.71068	.66506
8	.82075	.78941	.75941	.73069	.70319	.67684	.62741
9	.80073	.76642	.73373	.70259	.67290	.64461	.59190
10	.78120	.74409	.70892	.67556	.64393	.61391	.55839
11	.76214	.72242	.68495	.64958	.61620	.58468	.52679
12	.74356	.70138	.66178	.62460	.58966	.55684	.49697
13	.72542	.68095	.63940	.60057	.56427	.53032	.46884
14	.70773	.66112	.61778	.57748	.53997	.50507	.44230
15	.69047	.64186	.59689	.55526	.51672	.48102	.41727
16	.67362	.62317	.57671	.53391	.49447	.45811	.39365
17	.65720	.60502	.55720	.51337	.47318	.43630	.37136
18	.64117	.58739	.53836	.49363	.45280	.41552	.35034
19	.62553	.57029	.52016	.47464	.43330	.39573	.33051
20	.61027	.55368	.50257	.45639	.41464	.37689	.31180
21	.59539	.53755	.48557	.43883	.39679	.35894	.29416
22	.58086	.52189	.46915	.42196	.37970	.34185	.27751
23	.56670	.50669	.45329	.40573	.36335	.32557	.26180
24	.55288	.49193	.43796	.39012	.34770	.31007	.24698
25	.53939	.47761	.42315	.37512	.33273	.29530	.23300
26	.52623	.46369	.40884	.36069	.31840	.28124	.21981
27	.51340	.45019	.39501	.34682	.30469	.26785	.20737
28	.50088	.43708	.38165	.33348	.29157	.25509	.19563
29	.48866	.42435	.36875	.32065	.27902	.24295	.18456
30	.47674	.41199	.35628	.30832	.26700	.23138	.17411
31	.46511	.39999	.34423	.29646	.25550	.22036	.16425
32	.45377	.38834	.33259	.28506	.24450	.20987	.15496
33	.44270	.37703	.32134	.27409	.23397	.19987	.14619
34	.43191	.36604	.31048	.26355	.22390	.19035	.13791
35	.42137	.35538	.29998	.25342	.21425	.18129	.13011
36	.41109	.34503	.28983	.24367	.20503	.17266	.12274
37	.40107	.33498	.28003	.23430	.19620	.16444	.11579
38	.39128	.32523	.27056	.22529	.18775	.15661	.10924
39	.38174	.31575	.26141	.21662	.17967	.14915	.10306
40	.37243	.30656	.25257	.20829	.17193	.14205	.09722
41	.36335	.29763	.24403	.20028	.16453	.13528	.09172
42	.35448	.28896	.23578	.19257	.15744	.12884	.08653
43	.34584	.28054	.22781	.18517	.15066	.12270	.08163
44	.33740	.27237	.22010	.17805	.14417	.11686	.07701
45	.32917	.26444	.21266	.17120	.13796	.11130	.07265
46	.32115	.25674	.20547	.16461	.13202	.10600	.06854
47	.31331	.24926	.19852	.15828	.12634	.10095	.06466
48	.30567	.24200	.19181	.15219	.12090	.09614	.06100
49	.29822	.23495	.18532	.14634	.11569	.09156	.05755
50	.29094	.22811	.17905	.14071	.11071	.08720	.05429

AMOUNT OF 1 PER ANNUM FOR N YEARS

3

	2½%	3%	3½%	4%	4½%	5%	6%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0250	2.0300	2.0350	2.0400	2.0450	2.0500	2.0600
3	3.0756	3.0909	3.1062	3.1216	3.1370	3.1525	3.1836
4	4.1525	4.1836	4.2149	4.2465	4.2782	4.3101	4.3746
5	5.2563	5.3091	5.3625	5.4163	5.4707	5.5256	5.6371
6	6.3877	6.4684	6.5502	6.6330	6.7169	6.8019	6.9753
7	7.5474	7.6625	7.7794	7.8983	8.0192	8.1420	8.3938
8	8.7361	8.8923	9.0517	9.2142	9.3800	9.5491	9.8975
9	9.9545	10.1591	10.3685	10.5828	10.8021	11.0266	11.4913
10	11.2034	11.4639	11.7314	12.0061	12.2882	12.5779	13.1808
11	12.4835	12.8078	13.1420	13.4864	13.8412	14.2068	14.9716
12	13.7956	14.1920	14.6020	15.0258	15.4640	15.9171	16.8699
13	15.1404	15.6178	16.1130	16.6268	17.1599	17.7130	18.8821
14	16.5190	17.0863	17.6770	18.2919	18.9321	19.5986	21.0151
15	17.9319	18.5989	19.2957	20.0236	20.7841	21.5786	23.2760
16	19.3802	20.1569	20.9710	21.8245	22.7193	23.6575	25.6725
17	20.8647	21.7616	22.7050	23.6975	24.7417	25.8404	28.2129
18	22.3863	23.4144	24.4997	25.6454	26.8551	28.1324	30.9057
19	23.9460	25.1169	26.3572	27.6712	29.0636	30.5390	33.7600
20	25.5447	26.8704	28.2797	29.7781	31.3714	33.0660	36.7856
21	27.1833	28.6765	30.2695	31.9692	33.7831	35.7193	39.9927
22	28.8629	30.5368	32.3289	34.2480	36.3034	38.5052	43.3923
23	30.5844	32.4529	34.4604	36.6179	38.9370	41.4305	46.9958
24	32.3490	34.4265	36.6665	39.0826	41.6892	44.5020	50.8156
25	34.1578	36.4593	38.9499	41.6459	44.5652	47.7271	54.8645
26	36.0117	38.5530	41.3131	44.3117	47.5706	51.1135	59.1564
27	37.9120	40.7096	43.7591	47.0842	50.7113	54.6691	63.7058
28	39.8598	42.9309	46.2906	49.9676	53.9933	58.4026	68.5281
29	41.8563	45.2189	48.9108	52.9663	57.4230	62.3227	73.6398
30	43.9027	47.5754	51.6227	56.0849	61.0071	66.4388	79.0582
31	46.0003	50.0027	54.4295	59.3283	64.7524	70.7608	84.8017
32	48.1503	52.5028	57.3345	62.7015	68.6662	75.2988	90.8898
33	50.3540	55.0778	60.3412	66.2095	72.7562	80.0638	97.3432
34	52.6129	57.7302	63.4532	69.8579	77.0303	85.0670	104.1838
35	54.9282	60.4621	66.6740	73.6522	81.4966	90.3203	111.4348
36	57.3014	63.2759	70.0076	77.5983	86.1640	95.8363	119.1209
37	59.7339	66.1742	73.4579	81.7022	91.0413	101.6281	127.2681
38	62.2273	69.1594	77.0289	85.9703	96.1382	107.7095	135.9042
39	64.7830	72.2342	80.7249	90.4091	101.4644	114.0950	145.0585
40	67.4026	75.4013	84.5503	95.0255	107.0303	120.7998	154.7620
41	70.0876	78.6633	88.5095	99.8265	112.8467	127.8398	165.0477
42	72.8398	82.0232	92.6074	104.8196	118.9248	135.2318	175.9505
43	75.6608	85.4839	96.8486	110.0124	125.2764	142.9933	187.5076
44	78.5523	89.0484	101.2383	115.4129	131.9138	151.1430	199.7580
45	81.5161	92.7199	105.7817	121.0294	138.8500	159.7002	212.7435
46	84.5540	96.5015	110.4840	126.8706	146.0982	168.6852	226.5081
47	87.6679	100.3965	115.3510	132.9454	153.6726	178.1194	241.0986
48	90.8596	104.4084	120.3883	139.2632	161.5879	188.0254	256.5645
49	94.1311	108.5406	125.6018	145.8337	169.8594	198.4267	272.9584
50	97.4843	112.7969	130.9979	152.6671	178.5030	209.3480	290.3359

a_m

PRESENT VALUE OF 1 PER ANNUM FOR N YEARS

n	2½%	3%	3½%	4%	4½%	5%	6%
1	0.9756	0.9709	0.9662	0.9615	0.9569	0.9524	0.9434
2	1.9274	1.9135	1.8997	1.8861	1.8727	1.8594	1.8334
3	2.8560	2.8286	2.8016	2.7751	2.7490	2.7232	2.6730
4	3.7620	3.7171	3.6731	3.6299	3.5875	3.5460	3.4651
5	4.6458	4.5797	4.5151	4.4518	4.3900	4.3295	4.2124
6	5.5081	5.4172	5.3286	5.2421	5.1579	5.0757	4.9173
7	6.3494	6.2303	6.1145	6.0021	5.8927	5.7864	5.5824
8	7.1701	7.0197	6.8740	6.7327	6.5959	6.4632	6.2098
9	7.9709	7.7861	7.6077	7.4353	7.2688	7.1078	6.8017
10	8.7521	8.5302	8.3166	8.1109	7.9127	7.7217	7.3601
11	9.5142	9.2526	9.0016	8.7605	8.5289	8.3064	7.8869
12	10.2578	9.9540	9.6633	9.3851	9.1186	8.8633	8.3838
13	10.9832	10.6350	10.3027	9.9856	9.6829	9.3936	8.8527
14	11.6909	11.2961	10.9205	10.5631	10.2228	9.8986	9.2950
15	12.3814	11.9379	11.5174	11.1184	10.7395	10.3797	9.7122
16	13.0550	12.5611	12.0941	11.6523	11.2340	10.8378	10.1059
17	13.7122	13.1661	12.6513	12.1657	11.7072	11.2741	10.4773
18	14.3534	13.7535	13.1897	12.6593	12.1600	11.6896	10.8276
19	14.9789	14.3238	13.7098	13.1339	12.5933	12.0853	11.1581
20	15.5892	14.8775	14.2124	13.5903	13.0079	12.4622	11.4699
21	16.1845	15.4150	14.6980	14.0292	13.4047	12.8212	11.7641
22	16.7654	15.9369	15.1671	14.4511	13.7844	13.1630	12.0416
23	17.3321	16.4436	15.6204	14.8568	14.1478	13.4886	12.3034
24	17.8850	16.9355	16.0584	15.2470	14.4955	13.7986	12.5504
25	18.4244	17.4131	16.4815	15.6221	14.8282	14.0939	12.7834
26	18.9506	17.8768	16.8904	15.9828	15.1466	14.3752	13.0032
27	19.4640	18.3270	17.2854	16.3296	15.4513	14.6430	13.2105
28	19.9649	18.7641	17.6670	16.6631	15.7429	14.8981	13.4062
29	20.4535	19.1885	18.0358	16.9837	16.0219	15.1411	13.5907
30	20.9303	19.6004	18.3920	17.2920	16.2889	15.3725	13.7648
31	21.3954	20.0004	18.7363	17.5885	16.5444	15.5928	13.9291
32	21.8492	20.3888	19.0689	17.8736	16.7889	15.8027	14.0840
33	22.2919	20.7658	19.3902	18.1476	17.0229	16.0025	14.2302
34	22.7238	21.1318	19.7007	18.4112	17.2468	16.1929	14.3681
35	23.1452	21.4872	20.0007	18.6646	17.4610	16.3742	14.4982
36	23.5563	21.8323	20.2905	18.9083	17.6660	16.5469	14.6210
37	23.9573	22.1672	20.5705	19.1426	17.8622	16.7113	14.7368
38	24.3486	22.4925	20.8411	19.3679	18.0500	16.8679	14.8460
39	24.7303	22.8082	21.1025	19.5845	18.2297	17.0170	14.9491
40	25.1028	23.1148	21.3551	19.7928	18.4016	17.1591	15.0463
41	25.4661	23.4124	21.5991	19.9931	18.5661	17.2944	15.1380
42	25.8206	23.7014	21.8349	20.1856	18.7235	17.4232	15.2245
43	26.1664	23.9819	22.0627	20.3708	18.8742	17.5459	15.3062
44	26.5038	24.2543	22.2828	20.5488	19.0184	17.6628	15.3832
45	26.8330	24.5187	22.4955	20.7200	19.1563	17.7741	15.4558
46	27.1542	24.7754	22.7009	20.8847	19.2884	17.8801	15.5244
47	27.4675	25.0247	22.8994	21.0429	19.4147	17.9810	15.5890
48	27.7732	25.2667	23.0912	21.1951	19.5356	18.0772	15.6500
49	28.0714	25.5017	23.2766	21.3415	19.6513	18.1687	15.7076
50	28.3623	25.7298	23.4556	21.4822	19.7620	18.2559	15.7619

FOUR PLACE TABLES OF LOGARITHMS AND TRIGONOMETRIC FUNCTIONS

WITH AUXILIARY TABLES (CHIEFLY TO THREE FIGURES) OF
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DESCRIPTIVE NOTE. — In these tables, angles are expressed in degrees and decimal parts of a degree, instead of in degrees, minutes, and seconds. A conversion table is provided.

All the values of any one function, from 0° to 90° , will be found at one opening of the book; there are also special tables for small angles and angles near 90° . The arrangement of the page is uniform, — the first figures of the argument being given at the side of the page, and the last figure along the top. Moreover, the function always increases reading to the right, and decreases reading to the left, so that a frequent cause of error in interpolating is avoided.

The sign \int indicates a point where the first figure of the function changes in the middle of a line. The negative characteristics, $\bar{1}$, $\bar{2}$, etc., may be modified into 9-10, 8-10, etc., if preferred.

To facilitate interpolation, the tenths of the tabular differences are given at the end of each line, so that the actual differences themselves need not be considered. In using these aids, first find the nearest tabular entry, and then add (to move to the right) or subtract (to move to the left), as the case may require. Any interpolated value may be in error by one unit in the last place; wherever the errors of interpolation may be greater than this, warning is given in the margin.

A marginal index is provided throughout the table. In using the tabs at the side of the page, put the thumb on the desired tab and throw the free pages over; do not insert the fingers under these tabs. The special tabs at the upper and lower edges of the page make it possible to manipulate the logarithmic part of the table entirely with the left hand, the book lying flat on the desk; to turn forward, insert the thumb under the required tab at bottom of page; to turn backward, insert the finger under the required tab at top of page.

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Tenths of the
Tabular Difference
1 2 3 4 5

n	0	1	2	3	4	5	6	7	8	9	10					
1.0	1.000	1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210	2	4	6	8	10
1.1	1.210	1.232	1.254	1.277	1.300	1.323	1.346	1.369	1.392	1.416	1.440	2	5	7	9	11
1.2	1.440	1.464	1.488	1.513	1.538	1.563	1.588	1.613	1.638	1.664	1.690	2	5	7	10	12
1.3	1.690	1.716	1.742	1.769	1.796	1.823	1.850	1.877	1.904	1.932	1.960	3	5	8	11	13
1.4	1.960	1.988	2.016	2.045	2.074	2.103	2.132	2.161	2.190	2.220	2.250	3	6	9	12	14
1.5	2.250	2.280	2.310	2.341	2.372	2.403	2.434	2.465	2.496	2.528	2.560	3	6	9	12	15
1.6	2.560	2.592	2.624	2.657	2.690	2.723	2.756	2.789	2.822	2.856	2.890	3	7	10	13	16
1.7	2.890	2.924	2.958	2.993	3.028	3.063	3.098	3.133	3.168	3.204	3.240	3	7	10	14	17
1.8	3.240	3.276	3.312	3.349	3.386	3.423	3.460	3.497	3.534	3.572	3.610	4	7	11	15	18
1.9	3.61	3.65	3.69	3.72	3.76	3.80	3.84	3.88	3.92	3.96	4.00	0	1	1	2	2
2.0	4.00	4.04	4.08	4.12	4.16	4.20	4.24	4.28	4.33	4.37	4.41	0	1	1	2	2
2.1	4.41	4.45	4.49	4.54	4.58	4.62	4.67	4.71	4.75	4.80	4.84	0	1	1	2	2
2.2	4.84	4.88	4.93	4.97	5.02	5.06	5.11	5.15	5.20	5.24	5.29	0	1	1	2	2
2.3	5.29	5.34	5.38	5.43	5.48	5.52	5.57	5.62	5.66	5.71	5.76	0	1	1	2	2
2.4	5.76	5.81	5.86	5.90	5.95	6.00	6.05	6.10	6.15	6.20	6.25	0	1	1	2	2
2.5	6.25	6.30	6.35	6.40	6.45	6.50	6.55	6.60	6.66	6.71	6.76	1	1	2	2	3
2.6	6.76	6.81	6.86	6.92	6.97	7.02	7.08	7.13	7.18	7.24	7.29	1	1	2	2	3
2.7	7.29	7.34	7.40	7.45	7.51	7.56	7.62	7.67	7.73	7.78	7.84	1	1	2	2	3
2.8	7.84	7.90	7.95	8.01	8.07	8.12	8.18	8.24	8.29	8.35	8.41	1	1	2	2	3
2.9	8.41	8.47	8.53	8.58	8.64	8.70	8.76	8.82	8.88	8.94	9.00	1	1	2	2	3
3.0	9.00	9.06	9.12	9.18	9.24	9.30	9.36	9.42	9.49	9.55	9.61	1	1	2	2	3
3.1	9.61	9.67	9.73	9.80	9.86	9.92	9.99	10.05	10.11	10.18	10.24	1	1	2	3	3
3.2	10.24	10.30	10.37	10.43	10.50	10.56	10.63	10.69	10.76	10.82	10.89	1	1	2	3	3
3.3	10.89	10.96	11.02	11.09	11.16	11.22	11.29	11.36	11.42	11.49	11.56	1	1	2	3	3
3.4	11.56	11.63	11.70	11.76	11.83	11.90	11.97	12.04	12.11	12.18	12.25	1	1	2	3	3
3.5	12.25	12.32	12.39	12.46	12.53	12.60	12.67	12.74	12.82	12.89	12.96	1	1	2	3	4
3.6	12.96	13.03	13.10	13.18	13.25	13.32	13.40	13.47	13.54	13.62	13.69	1	1	2	3	4
3.7	13.69	13.76	13.84	13.91	13.99	14.06	14.14	14.21	14.29	14.36	14.44	1	1	2	3	4
3.8	14.44	14.52	14.59	14.67	14.75	14.82	14.90	14.98	15.05	15.13	15.21	1	2	2	3	4
3.9	15.21	15.29	15.37	15.44	15.52	15.60	15.68	15.76	15.84	15.92	16.00	1	2	2	3	4
4.0	16.00	16.08	16.16	16.24	16.32	16.40	16.48	16.56	16.65	16.73	16.81	1	2	2	3	4
4.1	16.81	16.89	16.97	17.06	17.14	17.22	17.31	17.39	17.47	17.56	17.64	1	2	2	3	4
4.2	17.64	17.72	17.81	17.89	17.98	18.06	18.15	18.23	18.32	18.40	18.49	1	2	3	3	4
4.3	18.49	18.58	18.66	18.75	18.84	18.92	19.01	19.10	19.18	19.27	19.36	1	2	3	3	4
4.4	19.36	19.45	19.54	19.62	19.71	19.80	19.89	19.98	20.07	20.16	20.25	1	2	3	4	4
4.5	20.25	20.34	20.43	20.52	20.61	20.70	20.79	20.88	20.98	21.07	21.16	1	2	3	4	5
4.6	21.16	21.25	21.34	21.44	21.53	21.62	21.72	21.81	21.90	22.00	22.09	1	2	3	4	5
4.7	22.09	22.18	22.28	22.37	22.47	22.56	22.66	22.75	22.85	22.94	23.04	1	2	3	4	5
4.8	23.04	23.14	23.23	23.33	23.43	23.52	23.62	23.72	23.81	23.91	24.01	1	2	3	4	5
4.9	24.01	24.11	24.21	24.30	24.40	24.50	24.60	24.70	24.80	24.90	25.00	1	2	3	4	5
5.0	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.81	25.91	26.01	1	2	3	4	5
5.1	26.01	26.11	26.21	26.32	26.42	26.52	26.63	26.73	26.83	26.94	27.04	1	2	3	4	5
5.2	27.04	27.14	27.25	27.35	27.46	27.56	27.67	27.77	27.88	27.98	28.09	1	2	3	4	5
5.3	28.09	28.20	28.30	28.41	28.52	28.62	28.73	28.84	28.94	29.05	29.16	1	2	3	4	5
5.4	29.16	29.27	29.38	29.48	29.59	29.70	29.81	29.92	30.03	30.14	30.25	1	2	3	4	5
5.5	30.25	30.36	30.47	30.58	30.69	30.80	30.91	31.02	31.14	31.25	31.36	1	2	3	4	6
5.6	31.36	31.47	31.58	31.70	31.81	31.92	32.04	32.15	32.26	32.38	32.49	1	2	3	5	6
5.7	32.49	32.60	32.72	32.83	32.95	33.06	33.18	33.29	33.41	33.52	33.64	1	2	3	5	6
5.8	33.64	33.76	33.87	33.99	34.11	34.22	34.34	34.46	34.57	34.69	34.81	1	2	4	5	6
5.9	34.81	34.93	35.05	35.16	35.28	35.40	35.52	35.64	35.76	35.88	36.00	1	2	4	5	6
6.	36.0	37.2	38.4	39.7	41.0	42.3	43.6	44.9	46.2	47.6	49.0	1	3	4	5	6
7.	49.0	50.4	51.8	53.3	54.8	56.3	57.8	59.3	60.8	62.4	64.0	1	3	4	6	7
8.	64.0	65.6	67.2	68.9	70.6	72.3	74.0	75.7	77.4	79.2	81.0	2	3	5	7	8
9.	81.0	82.8	84.6	86.5	88.4	90.3	92.2	94.1	96.0	98.0	100.0	2	4	6	8	9

$$\pi^2 = 9.870$$

(2)

$$1/\pi^2 = 0.10132$$

.

Square Roots

(Moving the decimal point TWO places in n is equivalent to moving it ONE place in \sqrt{n})

Tenths of the
Tabular Difference

n	0	1	2	3	4	5	6	7	8	9	10	Tabular Difference				
	1	2	3	4	5											
.1	.316	.332	.346	.361	.374	.387	.400	.412	.424	.436	.447	1	3	4	6	7
.2	.447	.458	.469	.480	.490	.500	.510	.520	.529	.539	.548	1	2	4	5	6
.3	.548	.557	.566	.574	.583	.592	.600	.608	.616	.624	.632	1	2	3	4	5
.4	.632	.640	.648	.656	.663	.671	.678	.686	.693	.700	.707	1	1	2	3	4
.5	.707	.714	.721	.728	.735	.742	.748	.755	.762	.768	.775	1	1	2	3	3
.6	.775	.781	.787	.794	.800	.806	.812	.819	.825	.831	.837	1	1	2	2	3
.7	.837	.843	.849	.854	.860	.866	.872	.877	.883	.889	.894	1	1	2	2	3
.8	.894	.900	.906	.911	.917	.922	.927	.933	.938	.943	.949	1	1	2	2	3
.9	.949	.954	.959	.964	.970	.975	.980	.985	.990	.995	1.000	1	1	2	2	3
1.0	1.000	1.005	1.010	1.015	1.020	1.025	1.030	1.034	1.039	1.044	1.049	0	1	1	2	2
1.1	1.049	1.054	1.058	1.063	1.068	1.072	1.077	1.082	1.086	1.091	1.095	0	1	1	2	2
1.2	1.095	1.100	1.105	1.109	1.114	1.118	1.122	1.127	1.131	1.136	1.140	0	1	1	2	2
1.3	1.140	1.145	1.149	1.153	1.158	1.162	1.166	1.170	1.175	1.179	1.183	0	1	1	2	2
1.4	1.183	1.187	1.192	1.196	1.200	1.204	1.208	1.212	1.217	1.221	1.225	0	1	1	2	2
1.5	1.225	1.229	1.233	1.237	1.241	1.245	1.249	1.253	1.257	1.261	1.265	0	1	1	2	2
1.6	1.265	1.269	1.273	1.277	1.281	1.285	1.288	1.292	1.296	1.300	1.304	0	1	1	2	2
1.7	1.304	1.308	1.311	1.315	1.319	1.323	1.327	1.330	1.334	1.338	1.342	0	1	1	2	2
1.8	1.342	1.345	1.349	1.353	1.356	1.360	1.364	1.367	1.371	1.375	1.378	0	1	1	1	2
1.9	1.378	1.382	1.386	1.389	1.393	1.396	1.400	1.404	1.407	1.411	1.414	0	1	1	1	2
2.0	1.414	1.418	1.421	1.425	1.428	1.432	1.435	1.439	1.442	1.446	1.449	0	1	1	1	2
2.1	1.449	1.453	1.456	1.459	1.463	1.466	1.470	1.473	1.476	1.480	1.483	0	1	1	1	2
2.2	1.483	1.487	1.490	1.493	1.497	1.500	1.503	1.507	1.510	1.513	1.517	0	1	1	1	2
2.3	1.517	1.520	1.523	1.526	1.530	1.533	1.536	1.539	1.543	1.546	1.549	0	1	1	1	2
2.4	1.549	1.552	1.556	1.559	1.562	1.565	1.568	1.572	1.575	1.578	1.581	0	1	1	1	2
2.5	1.581	1.584	1.587	1.591	1.594	1.597	1.600	1.603	1.606	1.609	1.612	0	1	1	1	2
2.6	1.612	1.616	1.619	1.622	1.625	1.628	1.631	1.634	1.637	1.640	1.643	0	1	1	1	2
2.7	1.643	1.646	1.649	1.652	1.655	1.658	1.661	1.664	1.667	1.670	1.673	0	1	1	1	2
2.8	1.673	1.676	1.679	1.682	1.685	1.688	1.691	1.694	1.697	1.700	1.703	0	1	1	1	1
2.9	1.703	1.706	1.709	1.712	1.715	1.718	1.720	1.723	1.726	1.729	1.732	0	1	1	1	1
3.0	1.732	1.735	1.738	1.741	1.744	1.746	1.749	1.752	1.755	1.758	1.761	0	1	1	1	1
3.1	1.761	1.764	1.766	1.769	1.772	1.775	1.778	1.780	1.783	1.786	1.789	0	1	1	1	1
3.2	1.789	1.792	1.794	1.797	1.800	1.803	1.806	1.808	1.811	1.814	1.817	0	1	1	1	1
3.3	1.817	1.819	1.822	1.825	1.828	1.830	1.833	1.836	1.838	1.841	1.844	0	1	1	1	1
3.4	1.844	1.847	1.849	1.852	1.855	1.857	1.860	1.863	1.865	1.868	1.871	0	1	1	1	1
3.5	1.871	1.873	1.876	1.879	1.881	1.884	1.887	1.889	1.892	1.895	1.897	0	1	1	1	1
3.6	1.897	1.900	1.903	1.905	1.908	1.910	1.913	1.916	1.918	1.921	1.924	0	1	1	1	1
3.7	1.924	1.926	1.929	1.931	1.934	1.936	1.939	1.942	1.944	1.947	1.949	0	1	1	1	1
3.8	1.949	1.952	1.954	1.957	1.960	1.962	1.965	1.967	1.970	1.972	1.975	0	1	1	1	1
3.9	1.975	1.977	1.980	1.982	1.985	1.987	1.990	1.992	1.995	1.997	2.000	0	1	1	1	1
4.0	2.000	2.002	2.005	2.007	2.010	2.012	2.015	2.017	2.020	2.022	2.025	0	0	1	1	1
4.1	2.025	2.027	2.030	2.032	2.035	2.037	2.040	2.042	2.045	2.047	2.049	0	0	1	1	1
4.2	2.049	2.052	2.054	2.057	2.059	2.062	2.064	2.066	2.069	2.071	2.074	0	0	1	1	1
4.3	2.074	2.076	2.078	2.081	2.083	2.086	2.088	2.090	2.093	2.095	2.098	0	0	1	1	1
4.4	2.098	2.100	2.102	2.105	2.107	2.110	2.112	2.114	2.117	2.119	2.121	0	0	1	1	1
4.5	2.121	2.124	2.126	2.128	2.131	2.133	2.135	2.138	2.140	2.142	2.145	0	0	1	1	1
4.6	2.145	2.147	2.149	2.152	2.154	2.156	2.159	2.161	2.163	2.166	2.168	0	0	1	1	1
4.7	2.168	2.170	2.173	2.175	2.177	2.179	2.182	2.184	2.186	2.189	2.191	0	0	1	1	1
4.8	2.191	2.193	2.195	2.198	2.200	2.202	2.205	2.207	2.209	2.211	2.214	0	0	1	1	1
4.9	2.214	2.216	2.218	2.220	2.223	2.225	2.227	2.229	2.232	2.234	2.236	0	0	1	1	1
5.	2.236	2.258	2.280	2.302	2.324	2.345	2.366	2.387	2.408	2.429	2.449	2	4	6	9	11
6.	2.449	2.470	2.490	2.510	2.530	2.550	2.569	2.588	2.608	2.627	2.646	2	4	6	8	10
7.	2.646	2.665	2.683	2.702	2.720	2.739	2.757	2.775	2.793	2.811	2.828	2	4	5	7	9
8.	2.828	2.846	2.864	2.881	2.898	2.915	2.933	2.950	2.966	2.983	3.000	2	3	5	7	9
9.	3.000	3.017	3.033	3.050	3.066	3.082	3.098	3.114	3.130	3.146	3.162	2	3	5	6	8

$$\sqrt{n} = 1.772454$$

(3)

$$\sqrt{1/n} = 0.56419$$

Cubes

(Moving the decimal point ONE place in n is equivalent to moving it THREE places in n^3)

Tenths of the
Tabular Difference
1 2 3 4 5

n	0	1	2	3	4	5	6	7	8	9	10		1	2	3	4	5
1.0	1.000	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331		3	7	10	13	17
1.1	1.331	1.368	1.405	1.443	1.482	1.521	1.561	1.602	1.643	1.685	1.728		4	8	12	16	20
1.2	1.728	1.772	1.816	1.861	1.907	1.953	2.000	2.048	2.097	2.147	2.197		5	9	14	19	23
1.3	2.197	2.248	2.300	2.353	2.406	2.460	2.515	2.571	2.628	2.686	2.744		5	11	16	22	27
1.4	2.74	2.80	2.86	2.92	2.99	3.05	3.11	3.18	3.24	3.31	3.38		1	1	2	3	3
1.5	3.38	3.44	3.51	3.58	3.65	3.72	3.80	3.87	3.94	4.02	4.10		1	1	2	3	4
1.6	4.10	4.17	4.25	4.33	4.41	4.49	4.57	4.66	4.74	4.83	4.91		1	2	2	3	4
1.7	4.91	5.00	5.09	5.18	5.27	5.36	5.45	5.55	5.64	5.74	5.83		1	2	3	4	5
1.8	5.83	5.93	6.03	6.13	6.23	6.33	6.43	6.54	6.64	6.75	6.86		1	2	3	4	5
1.9	6.86	6.97	7.08	7.19	7.30	7.41	7.53	7.65	7.76	7.88	8.00		1	2	3	5	6
2.0	8.00	8.12	8.24	8.37	8.49	8.62	8.74	8.87	9.00	9.13	9.26		1	3	4	5	6
2.1	9.26	9.39	9.53	9.66	9.80	9.94	10.08	10.22	10.36	10.50	10.65		1	3	4	6	7
2.2	10.65	10.79	10.94	11.09	11.24	11.39	11.54	11.70	11.85	12.01	12.17		2	3	5	6	8
2.3	12.17	12.33	12.49	12.65	12.81	12.98	13.14	13.31	13.48	13.65	13.82		2	3	5	7	8
2.4	13.82	14.00	14.17	14.35	14.53	14.71	14.89	15.07	15.25	15.44	15.62		2	4	5	7	9
2.5	15.62	15.81	16.00	16.19	16.39	16.58	16.78	16.97	17.17	17.37	17.58		2	4	6	8	10
2.6	17.58	17.78	17.98	18.19	18.40	18.61	18.82	19.03	19.25	19.47	19.68		2	4	6	8	11
2.7	19.68	19.90	20.12	20.35	20.57	20.80	21.02	21.25	21.48	21.72	21.95		2	5	7	9	11
2.8	21.95	22.19	22.43	22.67	22.91	23.15	23.39	23.64	23.89	24.14	24.39		2	5	7	10	12
2.9	24.39	24.64	24.90	25.15	25.41	25.67	25.93	26.20	26.46	26.73	27.00		3	5	8	10	13
3.0	27.0	27.3	27.5	27.8	28.1	28.4	28.7	28.9	29.2	29.5	29.8		0	1	1	1	1
3.1	29.8	30.1	30.4	30.7	31.0	31.3	31.6	31.9	32.2	32.5	32.8		0	1	1	1	1
3.2	32.8	33.1	33.4	33.7	34.0	34.3	34.6	35.0	35.3	35.6	35.9		0	1	1	1	2
3.3	35.9	36.3	36.6	36.9	37.3	37.6	37.9	38.3	38.6	39.0	39.3		0	1	1	1	2
3.4	39.3	39.7	40.0	40.4	40.7	41.1	41.4	41.8	42.1	42.5	42.9		0	1	1	1	2
3.5	42.9	43.2	43.6	44.0	44.4	44.7	45.1	45.5	45.9	46.3	46.7		0	1	1	2	2
3.6	46.7	47.0	47.4	47.8	48.2	48.6	49.0	49.4	49.8	50.2	50.7		0	1	1	2	2
3.7	50.7	51.1	51.5	51.9	52.3	52.7	53.2	53.6	54.0	54.4	54.9		0	1	1	2	2
3.8	54.9	55.3	55.7	56.2	56.6	57.1	57.5	58.0	58.4	58.9	59.3		0	1	1	2	2
3.9	59.3	59.8	60.2	60.7	61.2	61.6	62.1	62.6	63.0	63.5	64.0		0	1	1	2	2
4.0	64.0	64.5	65.0	65.5	65.9	66.4	66.9	67.4	67.9	68.4	68.9		0	1	1	2	2
4.1	68.9	69.4	69.9	70.4	71.0	71.5	72.0	72.5	73.0	73.6	74.1		1	1	2	2	3
4.2	74.1	74.6	75.2	75.7	76.2	76.8	77.3	77.9	78.4	79.0	79.5		1	1	2	2	3
4.3	79.5	80.1	80.6	81.2	81.7	82.3	82.9	83.5	84.0	84.6	85.2		1	1	2	2	3
4.4	85.2	85.8	86.4	86.9	87.5	88.1	88.7	89.3	89.9	90.5	91.1		1	1	2	2	3
4.5	91.1	91.7	92.3	93.0	93.6	94.2	94.8	95.4	96.1	96.7	97.3		1	1	2	2	3
4.6	97.3	98.0	98.6	99.3	99.9	100.5	101.2	101.8	102.5	103.2	103.8		1	1	2	3	3
4.7	103.8	104.5	105.2	105.8	106.5	107.2	107.9	108.5	109.2	109.9	110.6		1	1	2	3	3
4.8	110.6	111.3	112.0	112.7	113.4	114.1	114.8	115.5	116.2	116.9	117.6		1	1	2	3	4
4.9	117.6	118.4	119.1	119.8	120.6	121.3	122.0	122.8	123.5	124.3	125.0		1	1	2	3	4
5.0	125.0	125.8	126.5	127.3	128.0	128.8	129.6	130.3	131.1	131.9	132.7		1	2	2	3	4
5.1	132.7	133.4	134.2	135.0	135.8	136.6	137.4	138.2	139.0	139.8	140.6		1	2	2	3	4
5.2	140.6	141.4	142.2	143.1	143.9	144.7	145.5	146.4	147.2	148.0	148.9		1	2	2	3	4
5.3	148.9	149.7	150.6	151.4	152.3	153.1	154.0	154.9	155.7	156.6	157.5		1	2	3	3	4
5.4	157.5	158.3	159.2	160.1	161.0	161.9	162.8	163.7	164.6	165.5	166.4		1	2	3	4	4
5.5	166.4	167.3	168.2	169.1	170.0	171.0	171.9	172.8	173.7	174.7	175.6		1	2	3	4	5
5.6	175.6	176.6	177.5	178.5	179.4	180.4	181.3	182.3	183.3	184.2	185.2		1	2	3	4	5
5.7	185.2	186.2	187.1	188.1	189.1	190.1	191.1	192.1	193.1	194.1	195.1		1	2	3	4	5
5.8	195.1	196.1	197.1	198.2	199.2	200.2	201.2	202.3	203.3	204.3	205.4		1	2	3	4	5
5.9	205.4	206.4	207.5	208.5	209.6	210.6	211.7	212.8	213.8	214.9	216.0		1	2	3	4	5
6.	216.	227.	238.	250.	262.	275.							1	2	4	5	6
						275.	287.	301.	314.	329.	343.		1	3	4	5	7
7.	343.	358.	373.	389.	405.	422.	439.	457.	475.	493.	512.		2	3	5	7	8
8.	512.	531.	551.	572.	593.	614.	636.	659.	681.	705.	729.		2	4	7	9	11
9.	729.	754.	779.	804.	831.	857.	885.	913.	941.	970.	1000.		3	5	8	11	14

$$\pi^3 = 31,006$$

(4)

$$1/\pi^3 = 0.032252$$

Cube Roots

(Moving the decimal point THREE places in n is equivalent to moving it ONE place in $\sqrt[3]{n}$)

Tenths of the
Tabular Difference

n	0	1	2	3	4	5	6	7	8	9	10					
												1	2	3	4	5
.010	.2154	.2162	.2169	.2176	.2183	.2190	.2197	.2204	.2210	.2217	.2224	1	1	2	3	3
.011	.2224	.2231	.2237	.2244	.2251	.2257	.2264	.2270	.2277	.2283	.2289	1	1	2	3	3
.012	.2289	.2296	.2302	.2308	.2315	.2321	.2327	.2333	.2339	.2345	.2351	1	1	2	2	3
.013	.2351	.2357	.2363	.2369	.2375	.2381	.2387	.2393	.2399	.2404	.2410	1	1	2	2	3
.014	.2410	.2416	.2422	.2427	.2433	.2438	.2444	.2450	.2455	.2461	.2466	1	1	2	2	3
.015	.2466	.2472	.2477	.2483	.2488	.2493	.2499	.2504	.2509	.2515	.2520	1	1	2	2	3
.016	.2520	.2525	.2530	.2535	.2541	.2546	.2551	.2556	.2561	.2566	.2571	1	1	2	2	3
.017	.2571	.2576	.2581	.2586	.2591	.2596	.2601	.2606	.2611	.2616	.2621	0	1	1	2	2
.018	.2621	.2626	.2630	.2635	.2640	.2645	.2650	.2654	.2659	.2664	.2668	0	1	1	2	2
.019	.2668	.2673	.2678	.2682	.2687	.2692	.2696	.2701	.2705	.2710	.2714	0	1	1	2	2
.020	.2714	.2719	.2723	.2728	.2732	.2737	.2741	.2746	.2750	.2755	.2759	0	1	1	2	2
.021	.2759	.2763	.2768	.2772	.2776	.2781	.2785	.2789	.2794	.2798	.2802	0	1	1	2	2
.022	.2802	.2806	.2811	.2815	.2819	.2823	.2827	.2831	.2836	.2840	.2844	0	1	1	2	2
.023	.2844	.2848	.2852	.2856	.2860	.2864	.2868	.2872	.2876	.2880	.2884	0	1	1	2	2
.024	.2884	.2888	.2892	.2896	.2900	.2904	.2908	.2912	.2916	.2920	.2924	0	1	1	2	2
.025	.2924	.2928	.2932	.2936	.2940	.2943	.2947	.2951	.2955	.2959	.2962	0	1	1	2	2
.026	.2962	.2966	.2970	.2974	.2978	.2981	.2985	.2989	.2993	.2996	.3000	0	1	1	2	2
.027	.3000	.3004	.3007	.3011	.3015	.3018	.3022	.3026	.3029	.3033	.3037	0	1	1	1	2
.028	.3037	.3040	.3044	.3047	.3051	.3055	.3058	.3062	.3065	.3069	.3072	0	1	1	1	2
.029	.3072	.3076	.3079	.3083	.3086	.3090	.3093	.3097	.3100	.3104	.3107	0	1	1	1	2
.03	.311	.314	.317	.321	.324	.327	.330	.333	.336	.339	.342	0	1	1	1	2
.04	.342	.345	.348	.350	.353	.356	.358	.361	.363	.366	.368	0	1	1	1	1
.05	.368	.371	.373	.376	.378	.380	.383	.385	.387	.389	.391	0	0	1	1	1
.06	.391	.394	.396	.398	.400	.402	.404	.406	.408	.410	.412	0	0	1	1	1
.07	.412	.414	.416	.418	.420	.422	.424	.425	.427	.429	.431	0	0	1	1	1
.08	.431	.433	.434	.436	.438	.440	.441	.443	.445	.446	.448	0	0	1	1	1
.09	.448	.450	.451	.453	.455	.456	.458	.459	.461	.463	.464	0	0	0	1	1
.1	.464	.479	.493	.507	.519	.531	.543	.554	.565	.575	.585	1	3	4	5	7
.2	.585	.594	.604	.613	.621	.630	.638	.646	.654	.662	.669	1	2	3	4	5
.3	.669	.677	.684	.691	.698	.705	.711	.718	.724	.731	.737	1	1	2	3	3
.4	.737	.743	.749	.755	.761	.766	.772	.777	.783	.788	.794	1	1	2	2	3
.5	.794	.799	.804	.809	.814	.819	.824	.829	.834	.839	.843	0	1	1	2	2
.6	.843	.848	.853	.857	.862	.866	.871	.875	.879	.884	.888	0	1	1	2	2
.7	.888	.892	.896	.900	.905	.909	.913	.917	.921	.924	.928	0	1	1	2	2
.8	.928	.932	.936	.940	.944	.947	.951	.955	.958	.962	.965	0	1	1	1	2
.9	.965	.969	.973	.976	.980	.983	.986	.990	.993	.997	1.000	0	1	1	1	2
1.0	1.000	1.003	1.007	1.010	1.013	1.016	1.020	1.023	1.026	1.029	1.032	0	1	1	1	2
1.1	1.032	1.035	1.038	1.042	1.045	1.048	1.051	1.054	1.057	1.060	1.063	0	1	1	1	2
1.2	1.063	1.066	1.069	1.071	1.074	1.077	1.080	1.083	1.086	1.089	1.091	0	1	1	1	1
1.3	1.091	1.094	1.097	1.100	1.102	1.105	1.108	1.111	1.113	1.116	1.119	0	1	1	1	1
1.4	1.119	1.121	1.124	1.127	1.129	1.132	1.134	1.137	1.140	1.142	1.145	0	1	1	1	1
1.5	1.145	1.147	1.150	1.152	1.155	1.157	1.160	1.162	1.165	1.167	1.170	0	0	1	1	1
1.6	1.170	1.172	1.174	1.177	1.179	1.182	1.184	1.186	1.189	1.191	1.193	0	0	1	1	1
1.7	1.193	1.196	1.198	1.200	1.203	1.205	1.207	1.210	1.212	1.214	1.216	0	0	1	1	1
1.8	1.216	1.219	1.221	1.223	1.225	1.228	1.230	1.232	1.234	1.236	1.239	0	0	1	1	1
1.9	1.239	1.241	1.243	1.245	1.247	1.249	1.251	1.254	1.256	1.258	1.260	0	0	1	1	1
2.	1.260	1.281	1.301	1.320	1.339	1.357	1.375	1.392	1.409	1.426	1.442	2	4	6	8	10
3.	1.442	1.458	1.474	1.489	1.504	1.518	1.533	1.547	1.560	1.574	1.587	1	3	4	6	7
4.	1.587	1.601	1.613	1.626	1.639	1.651	1.663	1.675	1.687	1.698	1.710	1	2	4	5	6
5.	1.710	1.721	1.732	1.744	1.754	1.765	1.776	1.786	1.797	1.807	1.817	1	2	3	4	5
6.	1.817	1.827	1.837	1.847	1.857	1.866	1.876	1.885	1.895	1.904	1.913	1	2	3	4	5
7.	1.913	1.922	1.931	1.940	1.949	1.957	1.966	1.975	1.983	1.992	2.000	1	2	3	3	4
8.	2.000	2.008	2.017	2.025	2.033	2.041	2.049	2.057	2.065	2.072	2.080	1	2	2	3	4
9.	2.080	2.088	2.095	2.103	2.110	2.118	2.125	2.133	2.140	2.147	2.154	1	1	2	3	4

$$\sqrt[3]{\pi} = 1.46459$$

(5)

$$\sqrt[3]{1/\pi} = 0.68278$$

$$\sqrt[3]{6/\pi} = 1.24070$$

πn Circumferences of Circles ($n = \text{diam.}$)

n											Tenths of the Tabular Difference					
	0	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
1.	3.14	3.46	3.77	4.08	4.40	4.71	5.03	5.34	5.65	5.97	6.28	3	6	9	13	16
2.	6.28	6.60	6.91	7.23	7.54	7.85	8.17	8.48	8.80	9.11	9.42	3	6	9	13	16
3.	9.42	9.74	10.05	10.37	10.68	11.00	11.31	11.62	11.94	12.25	12.57	3	6	9	13	16
4.	12.57	12.88	13.19	13.51	13.82	14.14	14.45	14.77	15.08	15.39	15.71	3	6	9	13	16
5.	15.71	16.02	16.34	16.65	16.96	17.28	17.59	17.91	18.22	18.54	18.85	3	6	9	13	16
6.	18.85	19.16	19.48	19.79	20.11	20.42	20.73	21.05	21.36	21.68	21.99	3	6	9	13	16
7.	21.99	22.31	22.62	22.93	23.25	23.56	23.88	24.19	24.50	24.82	25.13	3	6	9	13	16
8.	25.13	25.45	25.76	26.08	26.39	26.70	27.02	27.33	27.65	27.96	28.27	3	6	9	13	16
9.	28.27	28.59	28.90	29.22	29.53	29.85	30.16	30.47	30.79	31.10	31.42	3	6	9	13	16

$\frac{1}{4} \pi n^2$ Areas of Circles ($n = \text{diam.}$) (Moving the decimal point ONE place in n is equivalent to moving it TWO places in $\pi n^2/4$.)

n											Tabular Difference					
	0	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
1.0	0.785	0.801	0.817	0.833	0.849	0.866	0.882	0.899	0.916	0.933	0.950	2	3	5	7	9
1.1	0.950	0.968	0.985	1.003	1.021	1.039	1.057	1.075	1.094	1.112	1.131	2	4	5	7	9
1.2	1.131	1.150	1.169	1.188	1.208	1.227	1.247	1.267	1.287	1.307	1.327	2	4	6	8	10
1.3	1.327	1.348	1.368	1.389	1.410	1.431	1.453	1.474	1.496	1.517	1.539	2	4	6	8	11
1.4	1.539	1.561	1.584	1.606	1.629	1.651	1.674	1.697	1.720	1.744	1.767	2	5	7	9	11
1.5	1.767	1.791	1.815	1.839	1.863	1.887	1.911	1.936	1.961	1.986	2.011	2	5	7	10	12
1.6	2.011	2.036	2.061	2.087	2.112	2.138	2.164	2.190	2.217	2.243	2.270	3	5	8	10	13
1.7	2.270	2.297	2.324	2.351	2.378	2.405	2.433	2.461	2.488	2.516	2.545	3	5	8	11	14
1.8	2.545	2.573	2.602	2.630	2.659	2.688	2.717	2.746	2.776	2.806	2.835	3	6	9	12	15
1.9	2.835	2.865	2.895	2.926	2.956	2.986	3.017	3.048	3.079	3.110	3.142	3	6	9	12	15
2.0	3.14	3.17	3.20	3.24	3.27	3.30	3.33	3.37	3.40	3.43	3.46	0	1	1	1	2
2.1	3.46	3.50	3.53	3.56	3.60	3.63	3.66	3.70	3.73	3.77	3.80	0	1	1	1	2
2.2	3.80	3.84	3.87	3.91	3.94	3.98	4.01	4.05	4.08	4.12	4.15	0	1	1	1	2
2.3	4.15	4.19	4.23	4.26	4.30	4.34	4.37	4.41	4.45	4.49	4.52	0	1	1	1	2
2.4	4.52	4.56	4.60	4.64	4.68	4.71	4.75	4.79	4.83	4.87	4.91	0	1	1	2	2
2.5	4.91	4.95	4.99	5.03	5.07	5.11	5.15	5.19	5.23	5.27	5.31	0	1	1	2	2
2.6	5.31	5.35	5.39	5.43	5.47	5.52	5.56	5.60	5.64	5.68	5.73	0	1	1	2	2
2.7	5.73	5.77	5.81	5.85	5.90	5.94	5.98	6.03	6.07	6.11	6.16	0	1	1	2	2
2.8	6.16	6.20	6.25	6.29	6.33	6.38	6.42	6.47	6.51	6.56	6.61	0	1	1	2	2
2.9	6.61	6.65	6.70	6.74	6.79	6.83	6.88	6.93	6.97	7.02	7.07	0	1	1	2	2
3.0	7.07	7.12	7.16	7.21	7.26	7.31	7.35	7.40	7.45	7.50	7.55	0	1	1	2	2
3.1	7.55	7.60	7.65	7.69	7.74	7.79	7.84	7.89	7.94	7.99	8.04	0	1	1	2	2
3.2	8.04	8.09	8.14	8.19	8.24	8.30	8.35	8.40	8.45	8.50	8.55	1	1	2	2	3
3.3	8.55	8.60	8.66	8.71	8.76	8.81	8.87	8.92	8.97	9.03	9.08	1	1	2	2	3
3.4	9.08	9.13	9.19	9.24	9.29	9.35	9.40	9.46	9.51	9.57	9.62	1	1	2	2	3
3.5	9.62	9.68	9.73	9.79	9.84	9.90	9.95	10.01	10.07	10.12	10.18	1	1	2	2	3
3.6	10.18	10.24	10.29	10.35	10.41	10.46	10.52	10.58	10.64	10.69	10.75	1	1	2	2	3
3.7	10.75	10.81	10.87	10.93	10.99	11.04	11.10	11.16	11.22	11.28	11.34	1	1	2	2	3
3.8	11.34	11.40	11.46	11.52	11.58	11.64	11.70	11.76	11.82	11.88	11.95	1	1	2	2	3
3.9	11.95	12.01	12.07	12.13	12.19	12.25	12.32	12.38	12.44	12.50	12.57	1	1	2	2	3
4.0	12.57	12.63	12.69	12.76	12.82	12.88	12.95	13.01	13.07	13.14	13.20	1	1	2	3	3
4.1	13.20	13.27	13.33	13.40	13.46	13.53	13.59	13.66	13.72	13.79	13.85	1	1	2	3	3
4.2	13.85	13.92	13.99	14.05	14.12	14.19	14.25	14.32	14.39	14.45	14.52	1	1	2	3	3
4.3	14.52	14.59	14.66	14.73	14.79	14.86	14.93	15.00	15.07	15.14	15.21	1	1	2	3	3
4.4	15.21	15.27	15.34	15.41	15.48	15.55	15.62	15.69	15.76	15.83	15.90	1	1	2	3	3
4.5	15.90	15.98	16.05	16.12	16.19	16.26	16.33	16.40	16.47	16.55	16.62	1	1	2	3	4
4.6	16.62	16.69	16.76	16.84	16.91	16.98	17.06	17.13	17.20	17.28	17.35	1	1	2	3	4
4.7	17.35	17.42	17.50	17.57	17.65	17.72	17.80	17.87	17.95	18.02	18.10	1	1	2	3	4
4.8	18.10	18.17	18.25	18.32	18.40	18.47	18.55	18.63	18.70	18.78	18.86	1	2	2	3	4
4.9	18.86	18.93	19.01	19.09	19.17	19.24	19.32	19.40	19.48	19.56	19.63	1	2	2	3	4
5.	19.6	20.4	21.2	22.1	22.9	23.8	24.6	25.5	26.4	27.3	28.3	1	2	3	3	4
6.	28.3	29.2	30.2	31.2	32.2	33.2	34.2	35.3	36.3	37.4	38.5	1	2	3	4	5
7.	38.5	39.6	40.7	41.9	43.0	44.2	45.4	46.6	47.8	49.0	50.3	1	2	4	5	6
8.	50.3	51.5	52.8	54.1	55.4	56.7	58.1	59.4	60.8	62.2	63.6	1	3	4	5	7
9.	63.6	65.0	66.5	67.9	69.4	70.9	72.4	73.9	75.4	77.0	78.5	1	3	4	6	7

(Moving the decimal point to the RIGHT in $1/n$
is equivalent to moving it to the LEFT in $1/n$)

Reciprocals

Tenths of the
Tabular Difference
1 2 3 4 5

10	9	8	7	6	5	4	3	2	1	0	n
.1000	.1010	.1020	.1031	.1042	.1053	.1064	.1075	.1087	.1099	.1111	9.
.1111	.1124	.1136	.1149	.1163	.1176	.1190	.1205	.1220	.1235	.1250	8.
.1250	.1266	.1282	.1299	.1316	.1333	.1351	.1370	.1389	.1408	.1429	7.
.1429	.1449	.1471	.1493	.1515	.1538	.1562	.1587	.1613	.1639	.1667	6.
.1667	.1669	.1672	.1675	.1678	.1681	.1684	.1686	.1689	.1692	.1695	5.9
.1695	.1698	.1701	.1704	.1706	.1709	.1712	.1715	.1718	.1721	.1724	5.8
.1724	.1727	.1730	.1733	.1736	.1739	.1742	.1745	.1748	.1751	.1754	5.7
.1754	.1757	.1761	.1764	.1767	.1770	.1773	.1776	.1779	.1783	.1786	5.6
.1786	.1789	.1792	.1795	.1799	.1802	.1805	.1808	.1812	.1815	.1818	5.5
.1818	.1821	.1825	.1828	.1832	.1835	.1838	.1842	.1845	.1848	.1852	5.4
.1852	.1855	.1859	.1862	.1866	.1869	.1873	.1876	.1880	.1883	.1887	5.3
.1887	.1890	.1894	.1898	.1901	.1905	.1908	.1912	.1916	.1919	.1923	5.2
.1923	.1927	.1931	.1934	.1938	.1942	.1946	.1949	.1953	.1957	.1961	5.1
.1961	.1965	.1969	.1972	.1976	.1980	.1984	.1988	.1992	.1996	.2000	5.0
.2000	.2004	.2008	.2012	.2016	.2020	.2024	.2028	.2033	.2037	.2041	4.9
.2041	.2045	.2049	.2053	.2058	.2062	.2066	.2070	.2075	.2079	.2083	4.8
.2083	.2088	.2092	.2096	.2101	.2105	.2110	.2114	.2119	.2123	.2128	4.7
.2128	.2132	.2137	.2141	.2146	.2151	.2155	.2160	.2165	.2169	.2174	4.6
.2174	.2179	.2183	.2188	.2193	.2198	.2203	.2208	.2212	.2217	.2222	4.5
.2222	.2227	.2232	.2237	.2242	.2247	.2252	.2257	.2262	.2268	.2273	4.4
.2273	.2278	.2283	.2288	.2294	.2299	.2304	.2309	.2315	.2320	.2326	4.3
.2326	.2331	.2336	.2342	.2347	.2353	.2358	.2364	.2370	.2375	.2381	4.2
.2381	.2387	.2392	.2398	.2404	.2410	.2415	.2421	.2427	.2433	.2439	4.1
.2439	.2445	.2451	.2457	.2463	.2469	.2475	.2481	.2488	.2494	.2500	4.0
.2500	.2506	.2513	.2519	.2525	.2532	.2538	.2545	.2551	.2558	.2564	3.9
.2564	.2571	.2577	.2584	.2591	.2597	.2604	.2611	.2618	.2625	.2632	3.8
.2632	.2639	.2646	.2653	.2660	.2667	.2674	.2681	.2688	.2695	.2703	3.7
.2703	.2710	.2717	.2725	.2732	.2740	.2747	.2755	.2762	.2770	.2778	3.6
.2778	.2786	.2793	.2801	.2809	.2817	.2825	.2833	.2841	.2849	.2857	3.5
.2857	.2865	.2874	.2882	.2890	.2899	.2907	.2915	.2924	.2933	.2941	3.4
.2941	.2950	.2959	.2967	.2976	.2985	.2994	.3003	.3012	.3021	.3030	3.3
.3030	.3040	.3049	.3058	.3067	.3077	.3086	.3096	.3106	.3115	.3125	3.2
.3125	.3135	.3145	.3155	.3165	.3175	.3185	.3195	.3205	.3215	.3226	3.1
.3226	.3236	.3247	.3257	.3268	.3279	.3289	.3300	.3311	.3322	.3333	3.0
.333	.334	.336	.337	.338	.339	.340	.341	.342	.344	.345	2.9
.345	.346	.347	.348	.350	.351	.352	.353	.355	.356	.357	2.8
.357	.358	.360	.361	.362	.364	.365	.366	.368	.369	.370	2.7
.370	.372	.373	.375	.376	.377	.379	.380	.382	.383	.385	2.6
.385	.386	.388	.389	.391	.392	.394	.395	.397	.398	.400	2.5
.400	.402	.403	.405	.407	.408	.410	.412	.413	.415	.417	2.4
.417	.418	.420	.422	.424	.426	.427	.429	.431	.433	.435	2.3
.435	.437	.439	.441	.442	.444	.446	.448	.450	.452	.455	2.2
.455	.457	.459	.461	.463	.465	.467	.469	.472	.474	.476	2.1
.476	.478	.481	.483	.485	.488	.490	.493	.495	.498	.500	2.0
.500	.503	.505	.508	.510	.513	.515	.518	.521	.524	.526	1.9
.526	.529	.532	.535	.538	.541	.543	.546	.549	.552	.556	1.8
.556	.559	.562	.565	.568	.571	.575	.578	.581	.585	.588	1.7
.588	.592	.595	.599	.602	.606	.610	.613	.617	.621	.625	1.6
.625	.629	.633	.637	.641	.645	.649	.654	.658	.662	.667	1.5
.667	.671	.676	.680	.685	.690	.694	.699	.704	.709	.714	1.4
.714	.719	.725	.730	.735	.741	.746	.752	.758	.763	.769	1.3
.769	.775	.781	.787	.794	.800	.806	.813	.820	.826	.833	1.2
.833	.840	.847	.855	.862	.870	.877	.885	.893	.901	.909	1.1
.909	.917	.926	.935	.943	.952	.962	.971	.980	.990		1.0

$$1/\pi = 0.31831$$

(7)

$$1/\pi^2 = 0.10132$$

Sine

Cosine

<div><div>9876543210</div><div>0123456789</div></div>												Tenths of the Tabular Difference					
												1	2	3	4	5	
0.000000												90°					
0°	0.000000	001745	003491	005236	006981	008727	010472	012217	013962	015707	017452	89	175	349	524	698	873
1	01745	01920	02094	02269	02443	02618	02792	02967	03141	03316	03490	88	17	35	52	70	87
2	03490	03664	03839	04013	04188	04362	04536	04711	04885	05059	05234	87	17	35	52	70	87
3	05234	05408	05582	05756	05931	06105	06279	06453	06627	06802	06976	86	17	35	52	70	87
4	06976	07150	07324	07498	07672	07846	08020	08194	08368	08542	08716	85	17	35	52	70	87
5	08716	08889	09063	09237	09411	09585	09758	09932	10106	10279	10453	84	17	35	52	69	87
6	10453	10626	10800	10973	11147	11320	11494	11667	11840	12014	12187	83	17	35	52	69	87
7	12187	12360	12533	12706	12880	13053	13226	13399	13572	13744	13917	82	17	35	52	69	87
8	13917	14090	14263	14436	14608	14781	14954	15126	15299	15471	15643	81	17	35	52	69	86
9	15643	15816	15988	16160	16333	16505	16677	16849	17021	17193	0.17365	80°	17	34	52	69	86
10°	0.1736	1754	1771	1788	1805	1822	1840	1857	1874	1891	1908	79	2	3	5	7	9
11	1908	1925	1942	1959	1977	1994	2011	2028	2045	2062	2079	78	2	3	5	7	9
12	2079	2096	2113	2130	2147	2164	2181	2198	2215	2233	2250	77	2	3	5	7	9
13	2250	2267	2284	2300	2317	2334	2351	2368	2385	2402	2419	76	2	3	5	7	8
14	2419	2436	2453	2470	2487	2504	2521	2538	2554	2571	2588	75	2	3	5	7	8
15	2588	2605	2622	2639	2656	2672	2689	2706	2723	2740	2756	74	2	3	5	7	8
16	2756	2773	2790	2807	2823	2840	2857	2874	2890	2907	2924	73	2	3	5	7	8
17	2924	2940	2957	2974	2990	3007	3024	3040	3057	3074	3090	72	2	3	5	7	8
18	3090	3107	3123	3140	3156	3173	3190	3206	3223	3239	3256	71	2	3	5	7	8
19	3256	3272	3289	3305	3322	3338	3355	3371	3387	3404	0.3420	70°	2	3	5	7	8
20°	0.3420	3437	3453	3469	3486	3502	3518	3535	3551	3567	3584	69	2	3	5	7	8
21	3584	3600	3616	3633	3649	3665	3681	3697	3714	3730	3746	68	2	3	5	6	8
22	3746	3762	3778	3795	3811	3827	3843	3859	3875	3891	3907	67	2	3	5	6	8
23	3907	3923	3939	3955	3971	3987	4003	4019	4035	4051	4067	66	2	3	5	6	8
24	4067	4083	4099	4115	4131	4147	4163	4179	4195	4210	4226	65	2	3	5	6	8
25	4226	4242	4258	4274	4289	4305	4321	4337	4352	4368	4384	64	2	3	5	6	8
26	4384	4399	4415	4431	4446	4462	4478	4493	4509	4524	4540	63	2	3	5	6	8
27	4540	4555	4571	4586	4602	4617	4633	4648	4664	4679	4695	62	2	3	5	6	8
28	4695	4710	4726	4741	4756	4772	4787	4802	4818	4833	4848	61	2	3	5	6	8
29	4848	4863	4879	4894	4909	4924	4939	4955	4970	4985	0.5000	60°	2	3	5	6	8
30°	0.5000	5015	5030	5045	5060	5075	5090	5105	5120	5135	5150	59	2	3	5	6	8
31	5150	5165	5180	5195	5210	5225	5240	5255	5270	5284	5299	58	1	3	4	6	7
32	5299	5314	5329	5344	5358	5373	5388	5402	5417	5432	5446	57	1	3	4	6	7
33	5446	5461	5476	5490	5505	5519	5534	5548	5563	5577	5592	56	1	3	4	6	7
34	5592	5606	5621	5635	5650	5664	5678	5693	5707	5721	5736	55	1	3	4	6	7
35	5736	5750	5764	5779	5793	5807	5821	5835	5850	5864	5878	54	1	3	4	6	7
36	5878	5892	5906	5920	5934	5948	5962	5976	5990	6004	6018	53	1	3	4	6	7
37	6018	6032	6046	6060	6074	6088	6101	6115	6129	6143	6157	52	1	3	4	6	7
38	6157	6170	6184	6198	6211	6225	6239	6252	6266	6280	6293	51	1	3	4	5	7
39	6293	6307	6320	6334	6347	6361	6374	6388	6401	6414	0.6428	50°	1	3	4	5	7
40°	0.6428	6441	6455	6468	6481	6494	6508	6521	6534	6547	6561	49	1	3	4	5	7
41	6561	6574	6587	6600	6613	6626	6639	6652	6665	6678	6691	48	1	3	4	5	7
42	6691	6704	6717	6730	6743	6756	6769	6782	6794	6807	6820	47	1	3	4	5	6
43	6820	6833	6845	6858	6871	6884	6896	6909	6921	6934	6947	46	1	3	4	5	6
44	6947	6959	6972	6984	6997	7009	7022	7034	7046	7059	0.7071	45°	1	2	4	5	6
45°	0.7071																

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<div><div>0</div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div></div>											Tenths of the Tabular Difference							
											1	2	3	4	5			
	0.7071										45°							
45°	0.7071	7083	7096	7108	7120	7133	7145	7157	7169	7181	7193	44	1	2	4	5	6	
46	7193	7206	7218	7230	7242	7254	7266	7278	7290	7302	7314	43	1	2	4	5	6	
47	7314	7325	7337	7349	7361	7373	7385	7396	7408	7420	7431	42	1	2	4	5	6	
48	7431	7443	7455	7466	7478	7490	7501	7513	7524	7536	7547	41	1	2	3	5	6	
49	7547	7559	7570	7581	7593	7604	7615	7627	7638	7649	7660	40°	1	2	3	5	6	
50°	0.7660	7672	7683	7694	7705	7716	7727	7738	7749	7760	0.7771	39	1	2	3	4	6	
51	7771	7782	7793	7804	7815	7826	7837	7848	7859	7869	7880	38	1	2	3	4	5	
52	7880	7891	7902	7912	7923	7934	7944	7955	7965	7976	7986	37	1	2	3	4	5	
53	7986	7997	8007	8018	8028	8039	8049	8059	8070	8080	8090	36	1	2	3	4	5	
54	8090	8100	8111	8121	8131	8141	8151	8161	8171	8181	8192	35	1	2	3	4	5	
55	8192	8202	8211	8221	8231	8241	8251	8261	8271	8281	8290	34	1	2	3	4	5	
56	8290	8300	8310	8320	8329	8339	8348	8358	8368	8377	8387	33	1	2	3	4	5	
57	8387	8396	8406	8415	8425	8434	8443	8453	8462	8471	8480	32	1	2	3	4	5	
58	8480	8490	8499	8508	8517	8526	8536	8545	8554	8563	8572	31	1	2	3	4	5	
59	8572	8581	8590	8599	8607	8616	8625	8634	8643	8652	0.8660	30°	1	2	3	4	4	
60°	0.8660	8669	8678	8686	8695	8704	8712	8721	8729	8738	8746	29	1	2	3	3	4	
61	8746	8755	8763	8771	8780	8788	8796	8805	8813	8821	8829	28	1	2	2	3	4	
62	8829	8838	8846	8854	8862	8870	8878	8886	8894	8902	8910	27	1	2	2	3	4	
63	8910	8918	8926	8934	8942	8949	8957	8965	8973	8980	8988	26	1	2	2	3	4	
64	8988	8996	9003	9011	9018	9026	9033	9041	9048	9056	9063	25	1	2	2	3	4	
65	9063	9070	9078	9085	9092	9100	9107	9114	9121	9128	9135	24	1	1	2	3	4	
66	9135	9143	9150	9157	9164	9171	9178	9184	9191	9198	9205	23	1	1	2	3	3	
67	9205	9212	9219	9225	9232	9239	9245	9252	9259	9265	9272	22	1	1	2	3	3	
68	9272	9278	9285	9291	9298	9304	9311	9317	9323	9330	9336	21	1	1	2	3	3	
69	9336	9342	9348	9354	9361	9367	9373	9379	9385	9391	0.9397	20°	1	1	2	2	3	
70°	0.9397	9403	9409	9415	9421	9426	9432	9438	9444	9449	9455	19	1	1	2	2	3	
71	9455	9461	9466	9472	9478	9483	9489	9494	9500	9505	9511	18	1	1	2	2	3	
72	9511	9516	9521	9527	9532	9537	9542	9548	9553	9558	9563	17	1	1	2	2	3	
73	9563	9568	9573	9578	9583	9588	9593	9598	9603	9608	9613	16	0	1	1	2	2	
74	9613	9617	9622	9627	9632	9636	9641	9646	9650	9655	9659	15	0	1	1	2	2	
75	9659	9664	9668	9673	9677	9681	9686	9690	9694	9699	9703	14	0	1	1	2	2	
76	9703	9707	9711	9715	9720	9724	9728	9732	9736	9740	9744	13	0	1	1	2	2	
77	9744	9748	9751	9755	9759	9763	9767	9770	9774	9778	9781	12	0	1	1	2	2	
78	9781	9785	9789	9792	9796	9799	9803	9806	9810	9813	9816	11	0	1	1	1	2	
79	9816	9820	9823	9826	9829	9833	9836	9839	9842	9845	0.9848	10°	0	1	1	1	2	
80°	0.9848	9851	9854	9857	9860	9863	9866	9869	9871	9874	9877	9	0	1	1	1	1	
81	9877	9880	9882	9885	9888	9890	9893	9895	9898	9900	9903	8	0	1	1	1	1	
82	9903	9905	9907	9910	9912	9914	9917	9919	9921	9923	9925	7	0	0	1	1	1	
83	9925	9928	9930	9932	9934	9936	9938	9940	9942	9943	9945	6	0	0	1	1	1	
84	9945	9947	9949	9951	9952	9954	9956	9957	9959	9960	9962	5	0	0	1	1	1	
85	9962	9963	9965	9966	9968	9969	9971	9972	9973	9974	9976	4	0	0	0	1	1	
86	9976	9977	9978	9979	9980	9981	9982	9983	9984	9985	9986	3	0	0	0	0	1	
87	9986	9987	9988	9989	9990	9990	9991	9992	9993	9993	9994	2	0	0	0	0	0	
88	9994	9995	9995	9996	9996	9997	9997	9997	9998	9998	0.9998	1	0	0	0	0	0	
89	0.9998	9999	9999	9999	9999	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0°	0	0	0	0	0	
90°	1.0000																	

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<div>9 8 7 6 5 4 3 2 1 0</div> <div>0 1 2 3 4 5 6 7 8 9</div>												Tenths of the Tabular Difference					
0.000000												90°	1	2	3	4	5
0°	0.000000	001745	003491	005236	006981	008727	010472	012218	013964	015709	017455	89	175	349	524	698	873
1	01746	01920	02095	02269	02444	02619	02793	02968	03143	03317	03492	88	17	35	52	70	87
2	03492	03667	03842	04016	04191	04366	04541	04716	04891	05066	05241	87	17	35	52	70	87
3	05241	05416	05591	05766	05941	06116	06291	06467	06642	06817	06993	86	18	35	53	70	88
4	06993	07168	07344	07519	07695	07870	08046	08221	08397	08573	08749	85	18	35	53	70	88
5	08749	08925	09101	09277	09453	09629	09805	09981	10158	10334	10510	84	18	35	53	70	88
6	10510	10687	10863	11040	11217	11394	11570	11747	11924	12101	12278	83	18	35	53	71	88
7	12278	12456	12633	12810	12988	13165	13343	13521	13698	13876	14054	82	18	36	53	71	89
8	14054	14232	14410	14588	14767	14945	15124	15302	15481	15660	15838	81	18	36	54	71	89
9	15838	16017	16196	16376	16555	16734	16914	17093	17273	17453	0.17633	80°	18	36	54	72	90
10°	0.1763	1781	1799	1817	1835	1853	1871	1890	1908	1926	1944	79	2	4	5	7	9
11	1944	1962	1980	1998	2016	2035	2053	2071	2089	2107	2126	78	2	4	5	7	9
12	2126	2144	2162	2180	2199	2217	2235	2254	2272	2290	2309	77	2	4	5	7	9
13	2309	2327	2345	2364	2382	2401	2419	2438	2456	2475	2493	76	2	4	6	7	9
14	2493	2512	2530	2549	2568	2586	2605	2623	2642	2661	2679	75	2	4	6	7	9
15	2679	2698	2717	2736	2754	2773	2792	2811	2830	2849	2867	74	2	4	6	8	9
16	2867	2886	2905	2924	2943	2962	2981	3000	3019	3038	3057	73	2	4	6	8	9
17	3057	3076	3096	3115	3134	3153	3172	3191	3211	3230	3249	72	2	4	6	8	10
18	3249	3269	3288	3307	3327	3346	3365	3385	3404	3424	3443	71	2	4	6	8	10
19	3443	3463	3482	3502	3522	3541	3561	3581	3600	3620	0.3640	70°	2	4	6	8	10
20°	0.3640	3659	3679	3699	3719	3739	3759	3779	3799	3819	3839	69	2	4	6	8	10
21	3839	3859	3879	3899	3919	3939	3959	3979	4000	4020	4040	68	2	4	6	8	10
22	4040	4061	4081	4101	4122	4142	4163	4183	4204	4224	4245	67	2	4	6	8	10
23	4245	4265	4286	4307	4327	4348	4369	4390	4411	4431	4452	66	2	4	6	8	10
24	4452	4473	4494	4515	4536	4557	4578	4599	4621	4642	4663	65	2	4	6	8	11
25	4663	4684	4706	4727	4748	4770	4791	4813	4834	4856	4877	64	2	4	6	9	11
26	4877	4899	4921	4942	4964	4986	5008	5029	5051	5073	5095	63	2	4	7	9	11
27	5095	5117	5139	5161	5184	5206	5228	5250	5272	5295	5317	62	2	4	7	9	11
28	5317	5340	5362	5384	5407	5430	5452	5475	5498	5520	5543	61	2	5	7	9	11
29	5543	5566	5589	5612	5635	5658	5681	5704	5727	5750	0.5774	60°	2	5	7	9	12
30°	0.5774	5797	5820	5844	5867	5890	5914	5938	5961	5985	6009	59	2	5	7	9	12
31	6009	6032	6056	6080	6104	6128	6152	6176	6200	6224	6249	58	2	5	7	10	12
32	6249	6273	6297	6322	6346	6371	6395	6420	6445	6469	6494	57	2	5	7	10	12
33	6494	6519	6544	6569	6594	6619	6644	6669	6694	6720	6745	56	3	5	8	10	13
34	6745	6771	6796	6822	6847	6873	6899	6924	6950	6976	7002	55	3	5	8	10	13
35	7002	7028	7054	7080	7107	7133	7159	7186	7212	7239	7265	54	3	5	8	11	13
36	7265	7292	7319	7346	7373	7400	7427	7454	7481	7508	7536	53	3	5	8	11	14
37	7536	7563	7590	7618	7646	7673	7701	7729	7757	7785	7813	52	3	6	8	11	14
38	7813	7841	7869	7898	7926	7954	7983	8012	8040	8069	8098	51	3	6	9	11	14
39	8098	8127	8156	8185	8214	8243	8273	8302	8332	8361	0.8391	50°	3	6	9	12	15
40°	0.8391	8421	8451	8481	8511	8541	8571	8601	8632	8662	8693	49	3	6	9	12	15
41	8693	8724	8754	8785	8816	8847	8878	8910	8941	8972	9004	48	3	6	9	12	16
42	9004	9036	9067	9099	9131	9163	9195	9228	9260	9293	9325	47	3	6	10	13	16
43	9325	9358	9391	9424	9457	9490	9523	9556	9590	9623	0.9657	46	3	7	10	13	17
44	0.9657	9691	9725	9759	9793	9827	9861	9896	9930	9965	1.0000	45°	3	7	10	14	17
45°	1.0000																

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	<div> <div>0</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> </div>											Tenths of the Tabular Difference				
	0	1	2	3	4	5	6	7	8	9		1	2	3	4	5
											1.0000	90°				
0°	1.0000	0000	0000	0000	0000	0000	0000	0001	0001	0001	0001	0002	89	0	0	0
1	0002	0002	0002	0003	0003	0003	0004	0004	0005	0006	0006	0006	88	0	0	0
2	0006	0007	0007	0008	0009	0010	0010	0011	0012	0013	0014	0014	87	0	0	0
3	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024	0024	86	0	0	0
4	0024	0026	0027	0028	0030	0031	0032	0034	0035	0037	0038	0038	85	0	0	0
5	0038	0040	0041	0043	0045	0046	0048	0050	0051	0053	0055	0055	84	0	0	1
6	0055	0057	0059	0061	0063	0065	0067	0069	0071	0073	0075	0075	83	0	0	1
7	0075	0077	0079	0082	0084	0086	0089	0091	0093	0096	0098	0098	82	0	0	1
8	0098	0101	0103	0106	0108	0111	0114	0116	0119	0122	0125	0125	81	0	1	1
9	0125	0127	0130	0133	0136	0139	0142	0145	0148	0151	1.0154	80°	0	1	1	1
10°	1.0154	0157	0161	0164	0167	0170	0174	0177	0180	0184	0187	0187	79	0	1	1
11	0187	0191	0194	0198	0201	0205	0209	0212	0216	0220	0223	0223	78	0	1	1
12	0223	0227	0231	0235	0239	0243	0247	0251	0255	0259	0263	0263	77	0	1	2
13	0263	0267	0271	0276	0280	0284	0288	0293	0297	0302	0306	0306	76	0	1	2
14	0306	0311	0315	0320	0324	0329	0334	0338	0343	0348	0353	0353	75	1	1	2
15	0353	0358	0363	0367	0372	0377	0382	0388	0393	0398	0403	0403	74	1	1	2
16	0403	0408	0413	0419	0424	0429	0435	0440	0446	0451	0457	0457	73	1	1	2
17	0457	0463	0468	0474	0480	0485	0491	0497	0503	0509	0515	0515	72	1	1	2
18	0515	0521	0527	0533	0539	0545	0551	0557	0564	0570	0576	0576	71	1	1	2
19	0576	0583	0589	0595	0602	0608	0615	0622	0628	0635	1.0642	70°	1	1	2	3
20°	1.0642	0649	0655	0662	0669	0676	0683	0690	0697	0704	0711	0711	69	1	1	2
21	0711	0719	0726	0733	0740	0748	0755	0763	0770	0778	0785	0785	68	1	1	2
22	0785	0793	0801	0808	0816	0824	0832	0840	0848	0856	0864	0864	67	1	2	2
23	0864	0872	0880	0888	0896	0904	0913	0921	0929	0938	0946	0946	66	1	2	2
24	0946	0955	0963	0972	0981	0989	0998	1007	1016	1025	1034	1034	65	1	2	3
25	1034	1043	1052	1061	1070	1079	1089	1098	1107	1117	1126	1126	64	1	2	3
26	1126	1136	1145	1155	1164	1174	1184	1194	1203	1213	1223	1223	63	1	2	3
27	1223	1233	1243	1253	1264	1274	1284	1294	1305	1315	1326	1326	62	1	2	3
28	1326	1336	1347	1357	1368	1379	1390	1401	1412	1423	1434	1434	61	1	2	3
29	1434	1445	1456	1467	1478	1490	1501	1512	1524	1535	1.1547	60°	1	2	3	5
30°	1.1547	1559	1570	1582	1594	1606	1618	1630	1642	1654	1666	1666	59	1	2	4
31	1666	1679	1691	1703	1716	1728	1741	1753	1766	1779	1792	1792	58	1	3	4
32	1792	1805	1818	1831	1844	1857	1870	1883	1897	1910	1924	1924	57	1	3	4
33	1924	1937	1951	1964	1978	1992	2006	2020	2034	2048	2062	2062	56	1	3	4
34	2062	2076	2091	2105	2120	2134	2149	2163	2178	2193	2208	2208	55	1	3	4
35	2208	2223	2238	2253	2268	2283	2299	2314	2329	2345	2361	2361	54	2	3	5
36	2361	2376	2392	2408	2424	2440	2456	2472	2489	2505	2521	2521	53	2	3	5
37	2521	2538	2554	2571	2588	2605	2622	2639	2656	2673	2690	2690	52	2	3	5
38	2690	2708	2725	2742	2760	2778	2796	2813	2831	2849	2868	2868	51	2	4	5
39	2868	2886	2904	2923	2941	2960	2978	2997	3016	3035	1.3054	50°	2	4	6	7
40°	1.3054	3073	3093	3112	3131	3151	3171	3190	3210	3230	3250	3250	49	2	4	6
41	3250	3270	3291	3311	3331	3352	3373	3393	3414	3435	3456	3456	48	2	4	6
42	3456	3478	3499	3520	3542	3563	3585	3607	3629	3651	3673	3673	47	2	4	7
43	3673	3696	3718	3741	3763	3786	3809	3832	3855	3878	3902	3902	46	2	5	7
44	3902	3925	3949	3972	3996	4020	4044	4069	4093	4118	1.4142	45°	2	5	7	10
45°	1.4142															

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<div><div>9876543210</div><div>0123456789</div></div>												Tenths of the Tabular Difference					
												1	2	3	4	5	
											1.4142	45°					
45°	1.4142	4167	4192	4217	4242	4267	4293	4318	4344	4370	4396	44	3	5	8	10	13
46	4396	4422	4448	4474	4501	4527	4554	4581	4608	4635	4663	43	3	5	8	11	13
47	4663	4690	4718	4746	4774	4802	4830	4859	4887	4916	4945	42	3	6	8	11	14
48	4945	4974	5003	5032	5062	5092	5121	5151	5182	5212	5243	41	3	6	9	12	15
49	5243	5273	5304	5335	5366	5398	5429	5461	5493	5525	1.5557	40°	3	6	9	13	16
50°	1.5557	5590	5622	5655	5688	5721	5755	5788	5822	5856	5890	39	3	7	10	13	17
51	5890	5925	5959	5994	6029	6064	6099	6135	6171	6207	6243	38	4	7	11	14	18
52	6243	6279	6316	6353	6390	6427	6464	6502	6540	6578	6616	37	4	7	11	15	19
53	6616	6655	6694	6733	6772	6812	6852	6892	6932	6972	7013	36	4	8	12	16	20
54	7013	7054	7095	7137	7179	7221	7263	7305	7348	7391	1.7434	35	4	8	13	17	21
55	1.7434	7478	7522	7566	7610	7655	7700	7745	7791	7837	7883	34	4	9	13	18	22
56	7883	7929	7976	8023	8070	8118	8166	8214	8263	8312	8361	33	5	10	14	19	24
57	8361	8410	8460	8510	8561	8612	8663	8714	8766	8818	8871	32	5	10	15	20	26
58	8871	8924	8977	9031	9084	9139	9194	9249	9304	9360	1.9416	31	5	11	16	22	27
59	1.9416	9473	9530	9587	9645	9703	9762	9821	9880	9940	2.0000	30°	6	12	18	23	29
60°	2.000	2.006	2.012	2.018	2.025	2.031	2.037	2.043	2.050	2.056	2.063	29	1	1	2	3	3
61	2.063	2.069	2.076	2.082	2.089	2.096	2.103	2.109	2.116	2.123	2.130	28	1	1	2	3	3
62	2.130	2.137	2.144	2.151	2.158	2.166	2.173	2.180	2.188	2.195	2.203	27	1	1	2	3	4
63	2.203	2.210	2.218	2.226	2.233	2.241	2.249	2.257	2.265	2.273	2.281	26	1	2	2	3	4
64	2.281	2.289	2.298	2.306	2.314	2.323	2.331	2.340	2.349	2.357	2.366	25	1	2	3	3	4
65	2.366	2.375	2.384	2.393	2.402	2.411	2.421	2.430	2.439	2.449	2.459	24	1	2	3	4	5
66	2.459	2.468	2.478	2.488	2.498	2.508	2.518	2.528	2.538	2.549	2.559	23	1	2	3	4	5
67	2.559	2.570	2.581	2.591	2.602	2.613	2.624	2.635	2.647	2.658	2.669	22	1	2	3	4	6
68	2.669	2.681	2.693	2.705	2.716	2.729	2.741	2.753	2.765	2.778	2.790	21	1	2	4	5	6
69	2.790	2.803	2.816	2.829	2.842	2.855	2.869	2.882	2.896	2.910	2.924	20°	1	3	4	5	7
70°	2.924	2.938	2.952	2.967	2.981	2.996	3.011	3.026	3.041	3.056	3.072	19	1	3	4	6	7
71	3.072	3.087	3.103	3.119	3.135	3.152	3.168	3.185	3.202	3.219	3.236	18	2	3	5	7	8
72	3.236	3.254	3.271	3.289	3.307	3.326	3.344	3.363	3.382	3.401	3.420	17	2	4	6	7	9
73	3.420	3.440	3.460	3.480	3.500	3.521	3.542	3.563	3.584	3.606	3.628	16	2	4	6	8	10
74	3.628	3.650	3.673	3.695	3.719	3.742	3.766	3.790	3.814	3.839	3.864	15	2	5	7	9	12
75	3.864	3.889	3.915	3.941	3.967	3.994	4.021	4.049	4.077	4.105	4.134	14	3	5	8	11	13
76	4.134	4.163	4.192	4.222	4.253	4.284	4.315	4.347	4.379	4.412	4.445	13	3	6	9	12	16
77	4.445	4.479	4.514	4.549	4.584	4.620	4.657	4.694	4.732	4.771	4.810	12	34—39				
78	4.810	4.850	4.890	4.931	4.973	5.016	5.059	5.103	5.148	5.194	5.241	11	40—47				
79	5.241	5.288	5.337	5.386	5.436	5.487	5.540	5.593	5.647	5.702	5.759	10°	47—57				
80°	5.759	5.816	5.875	5.935	5.996	6.059	6.123	6.188	6.255	6.323	6.392	9	57—69				
81	6.392	6.464	6.537	6.611	6.687	6.765	6.845	6.927	7.011	7.097	7.185	8	72—88				
82	7.185	7.276	7.368	7.463	7.561	7.661	7.764	7.870	7.979	8.091	8.206	7	91—115				
83	8.206	8.324	8.446	8.571	8.700	8.834	8.971	9.113	9.259	9.411	9.567	6	118—156				
84	9.567	9.728	9.895	10.068	10.248	10.433	10.626	10.826	11.034	11.249	11.474	5	Interpolation accurate, except the last figure				
85	11.474	11.707	11.951	12.204	12.469	12.745	13.035	13.337	13.654	13.987	14.336	4					
86	14.336	14.703	15.089	15.496	15.926	16.380	16.862	17.372	17.914	18.492	19.107	3					
87	19.11	19.77	20.47	21.23	22.04	22.93	23.88	24.92	26.05	27.29	28.65	2	Interpolation not accurate				
88	28.65	30.16	31.84	33.71	35.81	38.20	40.93	44.08	47.75	52.09	57.30	1					
89	57.30	63.66	71.62	81.85	95.49	114.59	143.24	191.0	286.5	573.0	∞	0°					
90°	∞																

Log

	0	1	2	3	4	5	6	7	8	9	10
1.00	0.0000	0004	0009	0013	0017	0022	0026	0030	0035	0039	0043
1.01	0043	0048	0052	0056	0060	0065	0069	0073	0077	0082	0086
1.02	0086	0090	0095	0099	0103	0107	0111	0116	0120	0124	0128
1.03	0128	0133	0137	0141	0145	0149	0154	0158	0162	0166	0170
1.04	0170	0175	0179	0183	0187	0191	0195	0199	0204	0208	0212
1.05	0212	0216	0220	0224	0228	0233	0237	0241	0245	0249	0253
1.06	0253	0257	0261	0265	0269	0273	0278	0282	0286	0290	0294
1.07	0294	0298	0302	0306	0310	0314	0318	0322	0326	0330	0334
1.08	0334	0338	0342	0346	0350	0354	0358	0362	0366	0370	0374
1.09	0374	0378	0382	0386	0390	0394	0398	0402	0406	0410	0414
1.10	0.0414	0418	0422	0426	0430	0434	0438	0441	0445	0449	0453
1.11	0453	0457	0461	0465	0469	0473	0477	0481	0484	0488	0492
1.12	0492	0496	0500	0504	0508	0512	0515	0519	0523	0527	0531
1.13	0531	0535	0538	0542	0546	0550	0554	0558	0561	0565	0569
1.14	0569	0573	0577	0580	0584	0588	0592	0596	0599	0603	0607
1.15	0607	0611	0615	0618	0622	0626	0630	0633	0637	0641	0645
1.16	0645	0648	0652	0656	0660	0663	0667	0671	0674	0678	0682
1.17	0682	0686	0689	0693	0697	0700	0704	0708	0711	0715	0719
1.18	0719	0722	0726	0730	0734	0737	0741	0745	0748	0752	0755
1.19	0755	0759	0763	0766	0770	0774	0777	0781	0785	0788	0792
1.20	0.0792	0795	0799	0803	0806	0810	0813	0817	0821	0824	0828
1.21	0828	0831	0835	0839	0842	0846	0849	0853	0856	0860	0864
1.22	0864	0867	0871	0874	0878	0881	0885	0888	0892	0896	0899
1.23	0899	0903	0906	0910	0913	0917	0920	0924	0927	0931	0934
1.24	0934	0938	0941	0945	0948	0952	0955	0959	0962	0966	0969
1.25	0969	0973	0976	0980	0983	0986	0990	0993	0997	1000	1004
1.26	1004	1007	1011	1014	1017	1021	1024	1028	1031	1035	1038
1.27	1038	1041	1045	1048	1052	1055	1059	1062	1065	1069	1072
1.28	1072	1075	1079	1082	1086	1089	1092	1096	1099	1103	1106
1.29	1106	1109	1113	1116	1119	1123	1126	1129	1133	1136	1139
1.30	0.1139	1143	1146	1149	1153	1156	1159	1163	1166	1169	1173
1.31	1173	1176	1179	1183	1186	1189	1193	1196	1199	1202	1206
1.32	1206	1209	1212	1216	1219	1222	1225	1229	1232	1235	1239
1.33	1239	1242	1245	1248	1252	1255	1258	1261	1265	1268	1271
1.34	1271	1274	1278	1281	1284	1287	1290	1294	1297	1300	1303
1.35	1303	1307	1310	1313	1316	1319	1323	1326	1329	1332	1335
1.36	1335	1339	1342	1345	1348	1351	1355	1358	1361	1364	1367
1.37	1367	1370	1374	1377	1380	1383	1386	1389	1392	1396	1399
1.38	1399	1402	1405	1408	1411	1414	1418	1421	1424	1427	1430
1.39	1430	1433	1436	1440	1443	1446	1449	1452	1455	1458	1461
1.40	0.1461	1464	1467	1471	1474	1477	1480	1483	1486	1489	1492
1.41	1492	1495	1498	1501	1504	1508	1511	1514	1517	1520	1523
1.42	1523	1526	1529	1532	1535	1538	1541	1544	1547	1550	1553
1.43	1553	1556	1559	1562	1565	1569	1572	1575	1578	1581	1584
1.44	1584	1587	1590	1593	1596	1599	1602	1605	1608	1611	1614
1.45	1614	1617	1620	1623	1626	1629	1632	1635	1638	1641	1644
1.46	1644	1647	1649	1652	1655	1658	1661	1664	1667	1670	1673
1.47	1673	1676	1679	1682	1685	1688	1691	1694	1697	1700	1703
1.48	1703	1706	1708	1711	1714	1717	1720	1723	1726	1729	1732
1.49	1732	1735	1738	1741	1744	1746	1749	1752	1755	1758	1761

Log

	0	1	2	3	4	5	6	7	8	9	10
1.50	0.1761	1764	1767	1770	1772	1775	1778	1781	1784	1787	1790
1.51	1790	1793	1796	1798	1801	1804	1807	1810	1813	1816	1818
1.52	1818	1821	1824	1827	1830	1833	1836	1838	1841	1844	1847
1.53	1847	1850	1853	1855	1858	1861	1864	1867	1870	1872	1875
1.54	1875	1878	1881	1884	1886	1889	1892	1895	1898	1901	1903
1.55	1903	1906	1909	1912	1915	1917	1920	1923	1926	1928	1931
1.56	1931	1934	1937	1940	1942	1945	1948	1951	1953	1956	1959
1.57	1959	1962	1965	1967	1970	1973	1976	1978	1981	1984	1987
1.58	1987	1989	1992	1995	1998	2000	2003	2006	2009	2011	2014
1.59	2014	2017	2019	2022	2025	2028	2030	2033	2036	2038	2041
1.60	0.2041	2044	2047	2049	2052	2055	2057	2060	2063	2066	2068
1.61	2068	2071	2074	2076	2079	2082	2084	2087	2090	2092	2095
1.62	2095	2098	2101	2103	2106	2109	2111	2114	2117	2119	2122
1.63	2122	2125	2127	2130	2133	2135	2138	2140	2143	2146	2148
1.64	2148	2151	2154	2156	2159	2162	2164	2167	2170	2172	2175
1.65	2175	2177	2180	2183	2185	2188	2191	2193	2196	2198	2201
1.66	2201	2204	2206	2209	2212	2214	2217	2219	2222	2225	2227
1.67	2227	2230	2232	2235	2238	2240	2243	2245	2248	2251	2253
1.68	2253	2256	2258	2261	2263	2266	2269	2271	2274	2276	2279
1.69	2279	2281	2284	2287	2289	2292	2294	2297	2299	2302	2304
1.70	0.2304	2307	2310	2312	2315	2317	2320	2322	2325	2327	2330
1.71	2330	2333	2335	2338	2340	2343	2345	2348	2350	2353	2355
1.72	2355	2358	2360	2363	2365	2368	2370	2373	2375	2378	2380
1.73	2380	2383	2385	2388	2390	2393	2395	2398	2400	2403	2405
1.74	2405	2408	2410	2413	2415	2418	2420	2423	2425	2428	2430
1.75	2430	2433	2435	2438	2440	2443	2445	2448	2450	2453	2455
1.76	2455	2458	2460	2463	2465	2467	2470	2472	2475	2477	2480
1.77	2480	2482	2485	2487	2490	2492	2494	2497	2499	2502	2504
1.78	2504	2507	2509	2512	2514	2516	2519	2521	2524	2526	2529
1.79	2529	2531	2533	2536	2538	2541	2543	2545	2548	2550	2553
1.80	0.2553	2555	2558	2560	2562	2565	2567	2570	2572	2574	2577
1.81	2577	2579	2582	2584	2586	2589	2591	2594	2596	2598	2601
1.82	2601	2603	2605	2608	2610	2613	2615	2617	2620	2622	2625
1.83	2625	2627	2629	2632	2634	2636	2639	2641	2643	2646	2648
1.84	2648	2651	2653	2655	2658	2660	2662	2665	2667	2669	2672
1.85	2672	2674	2676	2679	2681	2683	2686	2688	2690	2693	2695
1.86	2695	2697	2700	2702	2704	2707	2709	2711	2714	2716	2718
1.87	2718	2721	2723	2725	2728	2730	2732	2735	2737	2739	2742
1.88	2742	2744	2746	2749	2751	2753	2755	2758	2760	2762	2765
1.89	2765	2767	2769	2772	2774	2776	2778	2781	2783	2785	2788
1.90	0.2788	2790	2792	2794	2797	2799	2801	2804	2806	2808	2810
1.91	2810	2813	2815	2817	2819	2822	2824	2826	2828	2831	2833
1.92	2833	2835	2838	2840	2842	2844	2847	2849	2851	2853	2856
1.93	2856	2858	2860	2862	2865	2867	2869	2871	2874	2876	2878
1.94	2878	2880	2882	2885	2887	2889	2891	2894	2896	2898	2900
1.95	2900	2903	2905	2907	2909	2911	2914	2916	2918	2920	2923
1.96	2923	2925	2927	2929	2931	2934	2936	2938	2940	2942	2945
1.97	2945	2947	2949	2951	2953	2956	2958	2960	2962	2964	2967
1.98	2967	2969	2971	2973	2975	2978	2980	2982	2984	2986	2989
1.99	2989	2991	2993	2995	2997	2999	3002	3004	3006	3008	3010

These two pages give the common logarithms of numbers between 1 and 10, correct to four places. Moving the decimal point n places to the right (or left) in the number is equivalent to adding n (or $-n$) to the logarithm. Thus, $\log 0.017453 = 0.2419 - 2 [= \bar{2}.2419]$.

For any Angle x , $\log (x \text{ in radians}) =$ $2.2419 + \log (x^\circ)$	When x is between 0° and $1^\circ.1$ $\log \sin x = \bar{2}.2419 + \log (x^\circ)$ $\log \tan x = \bar{2}.2419 + \log (x^\circ)$ $\log \cot x = 1.7581 - \log (x^\circ)$	When x is between $88^\circ.9$ and 90° $\log \cos x = \bar{2}.2419 + \log (90^\circ - x^\circ)$ $\log \cot x = \bar{2}.2419 + \log (90^\circ - x^\circ)$ $\log \tan x = 1.7581 - \log (90^\circ - x^\circ)$
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Log

	0	1	2	3	4	5	6	7	8	9	10	Tenths of the Tabular Difference 1 2 3 4 5				
1.0	0.0000	0043	0086	0128	0170	0212	0253	0294	0334	0374	0414					
1.1	0414	0453	0492	0531	0569	0607	0645	0682	0719	0755	0792					
1.2	0792	0828	0864	0899	0934	0969	1004	1038	1072	1106	1139					
1.3	1139	1173	1206	1239	1271	1303	1335	1367	1399	1430	1461					
1.4	1461	1492	1523	1553	1584	1614	1644	1673	1703	1732	1761					
1.5	1761	1790	1818	1847	1875	1903	1931	1959	1987	2014	2041					
1.6	2041	2068	2095	2122	2148	2175	2201	2227	2253	2279	2304					
1.7	2304	2330	2355	2380	2405	2430	2455	2480	2504	2529	2553					
1.8	2553	2577	2601	2625	2648	2672	2695	2718	2742	2765	2788					
1.9	2788	2810	2833	2856	2878	2900	2923	2945	2967	2989	3010					
2.0	0.3010	3032	3054	3075	3096	3118	3139	3160	3181	3201	3222	2	4	6	8	11
2.1	3222	3243	3263	3284	3304	3324	3345	3365	3385	3404	3424	2	4	6	8	10
2.2	3424	3444	3464	3483	3502	3522	3541	3560	3579	3598	3617	2	4	6	8	10
2.3	3617	3636	3655	3674	3692	3711	3729	3747	3766	3784	3802	2	4	5	7	9
2.4	3802	3820	3838	3856	3874	3892	3909	3927	3945	3962	3979	2	4	5	7	9
2.5	3979	3997	4014	4031	4048	4065	4082	4099	4116	4133	4150	2	3	5	7	9
2.6	4150	4166	4183	4200	4216	4232	4249	4265	4281	4298	4314	2	3	5	7	8
2.7	4314	4330	4346	4362	4378	4393	4409	4425	4440	4456	4472	2	3	5	6	8
2.8	4472	4487	4502	4518	4533	4548	4564	4579	4594	4609	4624	2	3	5	6	8
2.9	4624	4639	4654	4669	4683	4698	4713	4728	4742	4757	4771	1	3	4	6	7
3.0	0.4771	4786	4800	4814	4829	4843	4857	4871	4886	4900	4914	1	3	4	6	7
3.1	4914	4928	4942	4955	4969	4983	4997	5011	5024	5038	5051	1	3	4	6	7
3.2	5051	5065	5079	5092	5105	5119	5132	5145	5159	5172	5185	1	3	4	5	7
3.3	5185	5198	5211	5224	5237	5250	5263	5276	5289	5302	5315	1	3	4	5	6
3.4	5315	5328	5340	5353	5366	5378	5391	5403	5416	5428	5441	1	3	4	5	6
3.5	5441	5453	5465	5478	5490	5502	5514	5527	5539	5551	5563	1	2	4	5	6
3.6	5563	5575	5587	5599	5611	5623	5635	5647	5658	5670	5682	1	2	4	5	6
3.7	5682	5694	5705	5717	5729	5740	5752	5763	5775	5786	5798	1	2	3	5	6
3.8	5798	5809	5821	5832	5843	5855	5866	5877	5888	5899	5911	1	2	3	5	6
3.9	5911	5922	5933	5944	5955	5966	5977	5988	5999	6010	6021	1	2	3	4	6
4.0	0.6021	6031	6042	6053	6064	6075	6085	6096	6107	6117	6128	1	2	3	4	5
4.1	6128	6138	6149	6160	6170	6180	6191	6201	6212	6222	6232	1	2	3	4	5
4.2	6232	6243	6253	6263	6274	6284	6294	6304	6314	6325	6335	1	2	3	4	5
4.3	6335	6345	6355	6365	6375	6385	6395	6405	6415	6425	6435	1	2	3	4	5
4.4	6435	6444	6454	6464	6474	6484	6493	6503	6513	6522	6532	1	2	3	4	5
4.5	6532	6542	6551	6561	6571	6580	6590	6599	6609	6618	6628	1	2	3	4	5
4.6	6628	6637	6646	6656	6665	6675	6684	6693	6702	6712	6721	1	2	3	4	5
4.7	6721	6730	6739	6749	6758	6767	6776	6785	6794	6803	6812	1	2	3	4	5
4.8	6812	6821	6830	6839	6848	6857	6866	6875	6884	6893	6902	1	2	3	4	4
4.9	6902	6911	6920	6928	6937	6946	6955	6964	6972	6981	6990	1	2	3	4	4

$$\log \pi = 0.4971$$

$$\log \pi/2 = 0.1961$$

$$\log \pi^2 = 0.9943$$

$$\log \sqrt{\pi} = 0.2486$$

$$\log e = 0.4343$$

$$(16)$$

$$\log (0.4343) = \bar{1}.6378$$

Log

											Tenths of the Tabular Difference					
	0	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
5.0	0.6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	7076	1	2	3	3	4
5.1	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	7160	1	2	3	3	4
5.2	7160	7168	7177	7185	7193	7202	7210	7218	7226	7235	7243	1	2	2	3	4
5.3	7243	7251	7259	7267	7275	7284	7292	7300	7308	7316	7324	1	2	2	3	4
5.4	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	7404	1	2	2	3	4
5.5	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	7482	1	2	2	3	4
5.6	7482	7490	7497	7505	7513	7520	7528	7536	7543	7551	7559	1	2	2	3	4
5.7	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	7634	1	2	2	3	4
5.8	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	7709	1	1	2	3	4
5.9	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	7782	1	1	2	3	4
6.0	0.7782	7789	7796	7803	7810	7818	7825	7832	7839	7846	7853	1	1	2	3	4
6.1	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	7924	1	1	2	3	4
6.2	7924	7931	7938	7945	7952	7959	7966	7973	7980	7987	7993	1	1	2	3	3
6.3	7993	8000	8007	8014	8021	8028	8035	8041	8048	8055	8062	1	1	2	3	3
6.4	8062	8069	8075	8082	8089	8096	8102	8109	8116	8122	8129	1	1	2	3	3
6.5	8129	8136	8142	8149	8156	8162	8169	8176	8182	8189	8195	1	1	2	3	3
6.6	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	8261	1	1	2	3	3
6.7	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	8325	1	1	2	3	3
6.8	8325	8331	8338	8344	8351	8357	8363	8370	8376	8382	8388	1	1	2	3	3
6.9	8388	8395	8401	8407	8414	8420	8426	8432	8439	8445	8451	1	1	2	3	3
7.0	0.8451	8457	8463	8470	8476	8482	8488	8494	8500	8506	8513	1	1	2	2	3
7.1	8513	8519	8525	8531	8537	8543	8549	8555	8561	8567	8573	1	1	2	2	3
7.2	8573	8579	8585	8591	8597	8603	8609	8615	8621	8627	8633	1	1	2	2	3
7.3	8633	8639	8645	8651	8657	8663	8669	8675	8681	8686	8692	1	1	2	2	3
7.4	8692	8698	8704	8710	8716	8722	8727	8733	8739	8745	8751	1	1	2	2	3
7.5	8751	8756	8762	8768	8774	8779	8785	8791	8797	8802	8808	1	1	2	2	3
7.6	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859	8865	1	1	2	2	3
7.7	8865	8871	8876	8882	8887	8893	8899	8904	8910	8915	8921	1	1	2	2	3
7.8	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971	8976	1	1	2	2	3
7.9	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025	9031	1	1	2	2	3
8.0	0.9031	9036	9042	9047	9053	9058	9063	9069	9074	9079	9085	1	1	2	2	3
8.1	9085	9090	9096	9101	9106	9112	9117	9122	9128	9133	9138	1	1	2	2	3
8.2	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186	9191	1	1	2	2	3
8.3	9191	9196	9201	9206	9212	9217	9222	9227	9232	9238	9243	1	1	2	2	3
8.4	9243	9248	9253	9258	9263	9269	9274	9279	9284	9289	9294	1	1	2	2	3
8.5	9294	9299	9304	9309	9315	9320	9325	9330	9335	9340	9345	1	1	2	2	3
8.6	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390	9395	1	1	2	2	3
8.7	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440	9445	0	1	1	2	2
8.8	9445	9450	9455	9460	9465	9469	9474	9479	9484	9489	9494	0	1	1	2	2
8.9	9494	9499	9504	9509	9513	9518	9523	9528	9533	9538	9542	0	1	1	2	2
9.0	0.9542	9547	9552	9557	9562	9566	9571	9576	9581	9586	9590	0	1	1	2	2
9.1	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633	9638	0	1	1	2	2
9.2	9638	9643	9647	9652	9657	9661	9666	9671	9675	9680	9685	0	1	1	2	2
9.3	9685	9689	9694	9699	9703	9708	9713	9717	9722	9727	9731	0	1	1	2	2
9.4	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773	9777	0	1	1	2	2
9.5	9777	9782	9786	9791	9795	9800	9805	9809	9814	9818	9823	0	1	1	2	2
9.6	9823	9827	9832	9836	9841	9845	9850	9854	9859	9863	9868	0	1	1	2	2
9.7	9868	9872	9877	9881	9886	9890	9894	9899	9903	9908	9912	0	1	1	2	2
9.8	9912	9917	9921	9926	9930	9934	9939	9943	9948	9952	9956	0	1	1	2	2
9.9	9956	9961	9965	9969	9974	9978	9983	9987	9991	9996		0	1	1	2	2

Log Sin

Log Cos

	9 8 7 6 5 4 3 2 1 0										Tenths of the Tabular Difference 1 2 3 4 5				
0° 0	-∞	4.2419	5429	7190	8439	9408	0200	0870	1450	1961	3.2419	89.9			
0.1	3.2419	2833	3211	3558	3880	4180	4460	4723	4971	5206	5429	89.8	To avoid interpo-		
0.2	5429	5641	5843	6036	6221	6398	6568	6732	6890	7043	7190	89.7	lation in the first		
0.3	7190	7332	7470	7604	7734	7859	7982	8101	8217	8329	8439	89.6	eleven lines, use		
0.4	8439	8547	8651	8753	8853	8951	9046	9140	9231	9321	3.9408	89.5	note.*		
0.5	3.9408	9494	9579	9661	9743	9822	9901	9977	0053	0127	2.0200	89.4			
0.6	2.0200	0272	0343	0412	0480	0548	0614	0679	0744	0807	0870	89.3			
0.7	0870	0931	0992	1052	1111	1169	1227	1284	1340	1395	1450	89.2	(Ordinary Inter-		
0.8	1450	1503	1557	1609	1661	1713	1764	1814	1863	1912	1961	89.1	polation would not		
0.9	1961	2009	2056	2103	2150	2196	2241	2286	2331	2375	2.2419	89° 0	be accurate in the		
1° 0	2.2419	2462	2505	2547	2589	2630	2672	2712	2753	2793	2832	88.9	first three lines.)		
1.1	2832	2872	2911	2949	2988	3025	3063	3100	3137	3174	3210	88.8	4 8 11 15 19		
1.2	3210	3246	3282	3317	3353	3388	3422	3456	3491	3524	3558	88.7	3 7 10 14 17		
1.3	3558	3591	3624	3657	3689	3722	3754	3786	3817	3848	3880	88.6	3 6 10 13 16		
1.4	3880	3911	3941	3972	4002	4032	4062	4091	4121	4150	4179	88.5	3 6 9 12 15		
1.5	4179	4208	4237	4265	4293	4322	4349	4377	4405	4432	4459	88.4	3 6 8 11 14		
1.6	4459	4486	4513	4540	4567	4593	4619	4645	4671	4697	4723	88.3	3 5 8 11 13		
1.7	4723	4748	4773	4799	4824	4848	4873	4898	4922	4947	4971	88.2	2 5 7 10 12		
1.8	4971	4995	5019	5043	5066	5090	5113	5136	5160	5183	5206	88.1	2 5 7 9 12		
1.9	5206	5228	5251	5274	5296	5318	5340	5363	5385	5406	2.5428	88° 0	2 4 7 9 11		
2° 0	2.5428	5450	5471	5493	5514	5535	5557	5578	5598	5619	5640	87.9	2 4 6 8 11		
2.1	5640	5661	5681	5702	5722	5742	5762	5782	5802	5822	5842	87.8	2 4 6 8 10		
2.2	5842	5862	5881	5901	5920	5939	5959	5978	5997	6016	6035	87.7	2 4 6 8 10		
2.3	6035	6054	6072	6091	6110	6128	6147	6165	6183	6201	6220	87.6	2 4 6 7 9		
2.4	6220	6238	6256	6274	6291	6309	6327	6344	6362	6379	6397	87.5	2 4 5 7 9		
2.5	6397	6414	6431	6449	6466	6483	6500	6517	6534	6550	6567	87.4	2 3 5 7 9		
2.6	6567	6584	6600	6617	6633	6650	6666	6682	6699	6715	6731	87.3	2 3 5 7 8		
2.7	6731	6747	6763	6779	6795	6810	6826	6842	6858	6873	6889	87.2	2 3 5 6 8		
2.8	6889	6904	6920	6935	6950	6965	6981	6996	7011	7026	7041	87.1	2 3 5 6 8		
2.9	7041	7056	7071	7086	7100	7115	7130	7144	7159	7174	2.7188	87° 0	1 3 4 6 7		
3° 0	2.7188	7202	7217	7231	7245	7260	7274	7288	7302	7316	7330	86.9	1 3 4 6 7		
3.1	7330	7344	7358	7372	7386	7400	7413	7427	7441	7454	7468	86.8	1 3 4 6 7		
3.2	7468	7482	7495	7508	7522	7535	7549	7562	7575	7588	7602	86.7	1 3 4 5 7		
3.3	7602	7615	7628	7641	7654	7667	7680	7693	7705	7718	7731	86.6	1 3 4 5 6		
3.4	7731	7744	7756	7769	7782	7794	7807	7819	7832	7844	7857	86.5	1 3 4 5 6		
3.5	7857	7869	7881	7894	7906	7918	7930	7943	7955	7967	7979	86.4	1 2 4 5 6		
3.6	7979	7991	8003	8015	8027	8039	8051	8062	8074	8086	8098	86.3	1 2 4 5 6		
3.7	8098	8109	8121	8133	8144	8156	8168	8179	8191	8202	8213	86.2	1 2 3 5 6		
3.8	8213	8225	8236	8248	8259	8270	8281	8293	8304	8315	8326	86.1	1 2 3 5 6		
3.9	8326	8337	8348	8359	8370	8381	8392	8403	8414	8425	2.8436	86° 0	1 2 3 4 5		
4° 0	2.8436	8447	8457	8468	8479	8490	8500	8511	8522	8532	8543	85.9	1 2 3 4 5		
4.1	8543	8553	8564	8575	8585	8595	8606	8616	8627	8637	8647	85.8	1 2 3 4 5		
4.2	8647	8658	8668	8678	8688	8699	8709	8719	8729	8739	8749	85.7	1 2 3 4 5		
4.3	8749	8759	8769	8780	8790	8799	8809	8819	8829	8839	8849	85.6	1 2 3 4 5		
4.4	8849	8859	8869	8878	8888	8898	8908	8917	8927	8937	8946	85.5	1 2 3 4 5		
4.5	8946	8956	8966	8975	8985	8994	9004	9013	9023	9032	9042	85.4	1 2 3 4 5		
4.6	9042	9051	9060	9070	9079	9089	9098	9107	9116	9126	9135	85.3	1 2 3 4 5		
4.7	9135	9144	9153	9162	9172	9181	9190	9199	9208	9217	9226	85.2	1 2 3 4 5		
4.8	9226	9235	9244	9253	9262	9271	9280	9289	9298	9307	9315	85.1	1 2 3 4 4		
4.9	9315	9324	9333	9342	9351	9359	9368	9377	9386	9394	2.9403	85° 0	1 2 3 4 4		

* When x is between 0° and $1^\circ.1$
 $\log \sin x = \log \text{rad } x$

[See page 28]
 (18)

* When x is between $88^\circ.9$ and 90°
 $\log \cos x = \log \text{rad } (90^\circ - x)$

Log Sin

Log Cos

	<div> <div>9</div> <div>8</div> <div>7</div> <div>6</div> <div>5</div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> <div>0</div> </div>										Tenths of the Tabular Difference				
	0	1	2	3	4	5	6	7	8	9	1	2	3	4	5
5°.0	2.9403	9412	9420	9429	9437	9446	9455	9463	9472	9480	2.9489	84.9	1	2	3
5.1	9489	9497	9506	9514	9523	9531	9539	9548	9556	9565	9573	84.8	1	2	3
5.2	9573	9581	9589	9598	9606	9614	9623	9631	9639	9647	9655	84.7	1	2	2
5.3	9655	9664	9672	9680	9688	9696	9704	9712	9720	9728	9736	84.6	1	2	2
5.4	9736	9744	9752	9760	9768	9776	9784	9792	9800	9808	9816	84.5	1	2	2
5.5	9816	9824	9831	9839	9847	9855	9863	9870	9878	9886	9894	84.4	1	2	2
5.6	9894	9901	9909	9917	9925	9932	9940	9948	9955	9963	2.9970	84.3	1	2	2
5.7	2.9970	9978	9986	9993	0001	0008	0016	0023	0031	0038	1.0046	84.2	1	2	2
5.8	1.0046	0053	0061	0068	0075	0083	0090	0098	0105	0112	0120	84.1	1	1	2
5.9	0120	0127	0134	0142	0149	0156	0163	0171	0178	0185	1.0192	84°.0	1	1	2
6°.0	1.0192	0200	0207	0214	0221	0228	0235	0243	0250	0257	0264	83.9	1	1	2
6.1	0264	0271	0278	0285	0292	0299	0306	0313	0320	0327	0334	83.8	1	1	2
6.2	0334	0341	0348	0355	0362	0369	0376	0383	0390	0397	0403	83.7	1	1	2
6.3	0403	0410	0417	0424	0431	0438	0444	0451	0458	0465	0472	83.6	1	1	2
6.4	0472	0478	0485	0492	0498	0505	0512	0519	0525	0532	0539	83.5	1	1	2
6.5	0539	0545	0552	0558	0565	0572	0578	0585	0591	0598	0605	83.4	1	1	2
6.6	0605	0611	0618	0624	0631	0637	0644	0650	0657	0663	0670	83.3	1	1	2
6.7	0670	0676	0683	0689	0695	0702	0708	0715	0721	0727	0734	83.2	1	1	2
6.8	0734	0740	0746	0753	0759	0765	0772	0778	0784	0790	0797	83.1	1	1	2
6.9	0797	0803	0809	0816	0822	0828	0834	0840	0847	0853	1.0859	83°.0	1	1	2
7°.0	1.0859	0865	0871	0877	0884	0890	0896	0902	0908	0914	0920	82.9	1	1	2
7.1	0920	0926	0932	0938	0945	0951	0957	0963	0969	0975	0981	82.8	1	1	2
7.2	0981	0987	0993	0999	1005	1011	1017	1022	1028	1034	1040	82.7	1	1	2
7.3	1040	1046	1052	1058	1064	1070	1076	1081	1087	1093	1099	82.6	1	1	2
7.4	1099	1105	1111	1116	1122	1128	1134	1140	1145	1151	1157	82.5	1	1	2
7.5	1157	1163	1168	1174	1180	1186	1191	1197	1203	1208	1214	82.4	1	1	2
7.6	1214	1220	1226	1231	1237	1242	1248	1254	1259	1265	1271	82.3	1	1	2
7.7	1271	1276	1282	1287	1293	1299	1304	1310	1315	1321	1326	82.2	1	1	2
7.8	1326	1332	1337	1343	1348	1354	1359	1365	1370	1376	1381	82.1	1	1	2
7.9	1381	1387	1392	1398	1403	1409	1414	1419	1425	1430	1.1436	82°.0	1	1	2
8°.0	1.1436	1441	1446	1452	1457	1462	1468	1473	1478	1484	1489	81.9	1	1	2
8.1	1489	1494	1500	1505	1510	1516	1521	1526	1532	1537	1542	81.8	1	1	2
8.2	1542	1547	1553	1558	1563	1568	1574	1579	1584	1589	1594	81.7	1	1	2
8.3	1594	1600	1605	1610	1615	1620	1625	1631	1636	1641	1646	81.6	1	1	2
8.4	1646	1651	1656	1661	1666	1672	1677	1682	1687	1692	1697	81.5	1	1	2
8.5	1697	1702	1707	1712	1717	1722	1727	1732	1737	1742	1747	81.4	1	1	2
8.6	1747	1752	1757	1762	1767	1772	1777	1782	1787	1792	1797	81.3	0	1	1
8.7	1797	1802	1807	1812	1817	1822	1827	1832	1837	1842	1847	81.2	0	1	1
8.8	1847	1851	1856	1861	1866	1871	1876	1881	1886	1890	1895	81.1	0	1	1
8.9	1895	1900	1905	1910	1915	1919	1924	1929	1934	1939	1.1943	81°.0	0	1	1
9°.0	1.1943	1948	1953	1958	1962	1967	1972	1977	1981	1986	1991	80.9	0	1	1
9.1	1991	1996	2000	2005	2010	2015	2019	2024	2029	2033	2038	80.8	0	1	1
9.2	2038	2043	2047	2052	2057	2061	2066	2071	2075	2080	2085	80.7	0	1	1
9.3	2085	2089	2094	2098	2103	2108	2112	2117	2121	2126	2131	80.6	0	1	1
9.4	2131	2135	2140	2144	2149	2153	2158	2162	2167	2172	2176	80.5	0	1	1
9.5	2176	2181	2185	2190	2194	2199	2203	2208	2212	2217	2221	80.4	0	1	1
9.6	2221	2226	2230	2235	2239	2243	2248	2252	2257	2261	2266	80.3	0	1	1
9.7	2266	2270	2275	2279	2283	2288	2292	2297	2301	2305	2310	80.2	0	1	1
9.8	2310	2314	2319	2323	2327	2332	2336	2340	2345	2349	2353	80.1	0	1	1
9.9	2353	2358	2362	2367	2371	2375	2379	2384	2388	2392	1.2397	80°.0	0	1	1

		^{.9}	^{.8}	^{.7}	^{.6}	^{.5}	^{.4}	^{.3}	^{.2}	^{.1}	^{.0}	
	⁰	¹	²	³	⁴	⁵	⁶	⁷	⁸	⁹		
0°	- ∞	3.2419	5429	7190	8439	9408	0200	0870	1450	1961	2.2419	90°
1	2.2419	2832	3210	3558	3880	4179	4459	4723	4971	5206	5428	88
2	5428	5640	5842	6035	6220	6397	6567	6731	6889	7041	7188	87
3	7188	7330	7468	7602	7731	7857	7979	8098	8213	8326	8436	86
4	8436	8543	8647	8749	8849	8946	9042	9135	9226	9315	2.9403	85
5	2.9403	9489	9573	9655	9736	9816	9894	9970	0046	0120	1.0192	84
6	1.0192	0264	0334	0403	0472	0539	0605	0670	0734	0797	0859	83
7	0859	0920	0981	1040	1099	1157	1214	1271	1326	1381	1436	82
8	1436	1489	1542	1594	1646	1697	1747	1797	1847	1895	1943	81
9	1943	1991	2038	2085	2131	2176	2221	2266	2310	2353	1.2397	80°
10°	1.2397	2439	2482	2524	2565	2606	2647	2687	2727	2767	2806	79
11	2806	2845	2883	2921	2959	2997	3034	3070	3107	3143	3179	78
12	3179	3214	3250	3284	3319	3353	3387	3421	3455	3488	3521	77
13	3521	3554	3586	3618	3650	3682	3713	3745	3775	3806	3837	76
14	3837	3867	3897	3927	3957	3986	4015	4044	4073	4102	4130	75
15	4130	4158	4186	4214	4242	4269	4296	4323	4350	4377	4403	74
16	4403	4430	4456	4482	4508	4533	4559	4584	4609	4634	4659	73
17	4659	4684	4709	4733	4757	4781	4805	4829	4853	4876	4900	72
18	4900	4923	4946	4969	4992	5015	5037	5060	5082	5104	5126	71
19	5126	5148	5170	5192	5213	5235	5256	5278	5299	5320	1.5341	70°
20°	1.5341	5361	5382	5402	5423	5443	5463	5484	5504	5523	5543	69
21	5543	5563	5583	5602	5621	5641	5660	5679	5698	5717	5736	68
22	5736	5754	5773	5792	5810	5828	5847	5865	5883	5901	5919	67
23	5919	5937	5954	5972	5990	6007	6024	6042	6059	6076	6093	66
24	6093	6110	6127	6144	6161	6177	6194	6210	6227	6243	6259	65
25	6259	6276	6292	6308	6324	6340	6356	6371	6387	6403	6418	64
26	6418	6434	6449	6465	6480	6495	6510	6526	6541	6556	6570	63
27	6570	6585	6600	6615	6629	6644	6659	6673	6687	6702	6716	62
28	6716	6730	6744	6759	6773	6787	6801	6814	6828	6842	6856	61
29	6856	6869	6883	6896	6910	6923	6937	6950	6963	6977	1.6990	60°
30°	1.6990	7003	7016	7029	7042	7055	7068	7080	7093	7106	7118	59
31	7118	7131	7144	7156	7168	7181	7193	7205	7218	7230	7242	58
32	7242	7254	7266	7278	7290	7302	7314	7326	7338	7349	7361	57
33	7361	7373	7384	7396	7407	7419	7430	7442	7453	7464	7476	56
34	7476	7487	7498	7509	7520	7531	7542	7553	7564	7575	7586	55
35	7586	7597	7607	7618	7629	7640	7650	7661	7671	7682	7692	54
36	7692	7703	7713	7723	7734	7744	7754	7764	7774	7785	7795	53
37	7795	7805	7815	7825	7835	7844	7854	7864	7874	7884	7893	52
38	7893	7903	7913	7922	7932	7941	7951	7960	7970	7979	7989	51
39	7989	7998	8007	8017	8026	8035	8044	8053	8063	8072	1.8081	50°
40°	1.8081	8090	8099	8108	8117	8125	8134	8143	8152	8161	8169	49
41	8169	8178	8187	8195	8204	8213	8221	8230	8238	8247	8255	48
42	8255	8264	8272	8280	8289	8297	8305	8313	8322	8330	8338	47
43	8338	8346	8354	8362	8370	8378	8386	8394	8402	8410	8418	46
44	8418	8426	8433	8441	8449	8457	8464	8472	8480	8487	1.8495	45°
45°	1.8495											

Tenths of the
Tabular Difference

1 2 3 4 5

To avoid Interpo-
lation in the first
ten lines, use the
special table on the
preceding page.

(Ordinary Inter-
polation would not
be accurate in the
first three lines.)

4 8 12 16 20
4 7 11 15 19
3 7 10 14 17
3 6 9 13 16
3 6 9 12 15

3 5 8 11 14
3 5 8 10 13
2 5 7 10 12
2 5 7 9 11
2 4 6 9 11

2 4 6 8 10
2 4 6 8 10
2 4 5 7 9
2 3 5 7 9
2 3 5 7 8

2 3 5 6 8
2 3 5 6 8
1 3 4 6 7
1 3 4 6 7
1 3 4 5 7

1 3 4 5 6
1 2 4 5 6
1 2 4 5 6
1 2 3 5 6
1 2 3 4 6

1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5
1 2 3 4 5

1 2 3 4 5
1 2 3 3 4
1 2 2 3 4
1 2 2 3 4
1 2 2 3 4

1 2 2 3 4

Log Cos

log tan & log ctn

Log Tan

Log Cotan

		9	8	7	6	5	4	3	2	1	0		Tenths of the Tabular Difference 1 2 3 4 5
	0	1	2	3	4	5	6	7	8	9			
0° 0	-∞	4.2419	5429	7190	8439	9408	0200	0870	1450	1961	3.2419	89.9	
0.1	3.2419	2833	3211	3558	3880	4180	4460	4723	4972	5206	5429	89.8	To avoid interpo- lation in the first eleven lines, use note.*
0.2	5429	5641	5843	6036	6221	6398	6569	6732	6890	7043	7190	89.7	
0.3	7190	7332	7470	7604	7734	7860	7982	8101	8217	8329	8439	89.6	
0.4	8439	8547	8651	8754	8853	8951	9046	9140	9231	9321	3.9409	89.5	
0.5	3.9409	9495	9579	9662	9743	9823	9901	9978	0053	0127	2.0200	89.4	
0.6	2.0200	0272	0343	0412	0481	0548	0614	0680	0744	0807	0870	89.3	
0.7	0870	0932	0992	1052	1111	1170	1227	1284	1340	1395	1450	89.2	
0.8	1450	1504	1557	1610	1662	1713	1764	1814	1864	1913	1962	89.1	
0.9	1962	2010	2057	2104	2150	2196	2242	2287	2331	2376	2.2419	89° 0	(Ordinary Inter- polation would not be accurate in the first three lines.)
1° 0	2.2419	2462	2505	2548	2590	2631	2672	2713	2754	2794	2833	88.9	
1.1	2833	2873	2912	2950	2988	3026	3064	3101	3138	3175	3211	88.8	4 8 11 15 19
1.2	3211	3247	3283	3318	3354	3389	3423	3458	3492	3525	3559	88.7	3 7 10 14 17
1.3	3559	3592	3625	3658	3691	3723	3755	3787	3818	3850	3881	88.6	3 6 10 13 16
1.4	3881	3912	3943	3973	4003	4033	4063	4093	4122	4152	4181	88.5	3 6 9 12 15
1.5	4181	4210	4238	4267	4295	4323	4351	4379	4406	4434	4461	88.4	3 6 8 11 14
1.6	4461	4488	4515	4542	4568	4595	4621	4647	4673	4699	4725	88.3	3 5 8 11 13
1.7	4725	4750	4775	4801	4826	4851	4875	4900	4924	4949	4973	88.2	2 5 7 10 12
1.8	4973	4997	5021	5045	5068	5092	5115	5139	5162	5185	5208	88.1	2 5 7 9 12
1.9	5208	5231	5253	5276	5298	5321	5343	5365	5387	5409	2.5431	88° 0	2 4 7 9 11
2° 0	2.5431	5453	5474	5496	5517	5538	5559	5580	5601	5622	5643	87.9	2 4 6 8 11
2.1	5643	5664	5684	5705	5725	5745	5765	5785	5805	5825	5845	87.8	2 4 6 8 10
2.2	5845	5865	5884	5904	5923	5943	5962	5981	6000	6019	6038	87.7	2 4 6 8 10
2.3	6038	6057	6076	6095	6113	6132	6150	6169	6187	6205	6223	87.6	2 4 6 7 9
2.4	6223	6242	6260	6277	6295	6313	6331	6348	6366	6384	6401	87.5	2 4 5 7 9
2.5	6401	6418	6436	6453	6470	6487	6504	6521	6538	6555	6571	87.4	2 3 5 7 9
2.6	6571	6588	6605	6621	6638	6654	6671	6687	6703	6719	6736	87.3	2 3 5 7 8
2.7	6736	6752	6768	6784	6800	6815	6831	6847	6863	6878	6894	87.2	2 3 5 6 8
2.8	6894	6909	6925	6940	6956	6971	6986	7001	7016	7031	7046	87.1	2 3 5 6 8
2.9	7046	7061	7076	7091	7106	7121	7136	7150	7165	7179	2.7194	87° 0	1 3 4 6 7
3° 0	2.7194	7208	7223	7237	7252	7266	7280	7294	7308	7323	7337	86.9	1 3 4 6 7
3.1	7337	7351	7365	7379	7392	7406	7420	7434	7448	7461	7475	86.8	1 3 4 6 7
3.2	7475	7488	7502	7515	7529	7542	7556	7569	7582	7596	7609	86.7	1 3 4 5 7
3.3	7609	7622	7635	7648	7661	7674	7687	7700	7713	7726	7739	86.6	1 3 4 5 6
3.4	7739	7751	7764	7777	7790	7802	7815	7827	7840	7852	7865	86.5	1 3 4 5 6
3.5	7865	7877	7890	7902	7914	7927	7939	7951	7963	7975	7988	86.4	1 2 4 5 6
3.6	7988	8000	8012	8024	8036	8048	8059	8071	8083	8095	8107	86.3	1 2 4 5 6
3.7	8107	8119	8130	8142	8154	8165	8177	8188	8200	8212	8223	86.2	1 2 3 5 6
3.8	8223	8234	8246	8257	8269	8280	8291	8302	8314	8325	8336	86.1	1 2 3 5 6
3.9	8336	8347	8358	8370	8381	8392	8403	8414	8425	8436	2.8446	86° 0	1 2 3 4 6
4° 0	2.8446	8457	8468	8479	8490	8501	8511	8522	8533	8543	8554	85.9	1 2 3 4 5
4.1	8554	8565	8575	8586	8596	8607	8617	8628	8638	8649	8659	85.8	1 2 3 4 5
4.2	8659	8669	8680	8690	8700	8711	8721	8731	8741	8751	8762	85.7	1 2 3 4 5
4.3	8762	8772	8782	8792	8802	8812	8822	8832	8842	8852	8862	85.6	1 2 3 4 5
4.4	8862	8872	8882	8891	8901	8911	8921	8931	8940	8950	8960	85.5	1 2 3 4 5
4.5	8960	8970	8979	8989	8998	9008	9018	9027	9037	9046	9056	85.4	1 2 3 4 5
4.6	9056	9065	9075	9084	9093	9103	9112	9122	9131	9140	9150	85.3	1 2 3 4 5
4.7	9150	9159	9168	9177	9186	9196	9205	9214	9223	9232	9241	85.2	1 2 3 4 5
4.8	9241	9250	9260	9269	9278	9287	9296	9305	9313	9322	9331	85.1	1 2 3 4 4
4.9	9331	9340	9349	9358	9367	9376	9384	9393	9402	9411	2.9420	85° 0	1 2 3 4 4

* When x is between 0° and $1^\circ.1$
 $\log \tan x = \log \text{rad } x$

[See page 28]
 (22)

* When x is between $88^\circ.9$ and 90°
 $\log \cot x = \log \text{rad } (90^\circ - x)$

Log Tan

Log Cotan

	<div>9876543210</div>										Tenths of the Tabular Difference					
	0	1	2	3	4	5	6	7	8	9		1	2	3	4	5
5° 0	2.9420	9428	9437	9446	9454	9463	9472	9480	9489	9497	2.9506	84.9	1	2	3	4
5.1	9506	9515	9523	9532	9540	9549	9557	9565	9574	9582	9591	84.8	1	2	3	4
5.2	9591	9599	9608	9616	9624	9633	9641	9649	9657	9666	9674	84.7	1	2	2	3
5.3	9674	9682	9690	9699	9707	9715	9723	9731	9739	9747	9756	84.6	1	2	2	3
5.4	9756	9764	9772	9780	9788	9796	9804	9812	9820	9828	9836	84.5	1	2	2	3
5.5	9836	9844	9852	9860	9867	9875	9883	9891	9899	9907	9915	84.4	1	2	2	3
5.6	9915	9922	9930	9938	9946	9953	9961	9969	9977	9984	2.9992	84.3	1	2	2	3
5.7	2.9992	0000	0007	0015	0022	0030	0038	0045	0053	0060	1.0068	84.2	1	2	2	3
5.8	1.0068	0075	0083	0090	0098	0105	0113	0120	0128	0135	0143	84.1	1	1	2	3
5.9	0143	0150	0157	0165	0172	0180	0187	0194	0202	0209	1.0216	84° 0	1	1	2	3
6° 0	1.0216	0223	0231	0238	0245	0253	0260	0267	0274	0281	0289	83.9	1	1	2	3
6.1	0289	0296	0303	0310	0317	0324	0331	0338	0346	0353	0360	83.8	1	1	2	3
6.2	0360	0367	0374	0381	0388	0395	0402	0409	0416	0423	0430	83.7	1	1	2	3
6.3	0430	0437	0444	0451	0457	0464	0471	0478	0485	0492	0499	83.6	1	1	2	3
6.4	0499	0506	0512	0519	0526	0533	0540	0546	0553	0560	0567	83.5	1	1	2	3
6.5	0567	0573	0580	0587	0593	0600	0607	0614	0620	0627	0633	83.4	1	1	2	3
6.6	0633	0640	0647	0653	0660	0667	0673	0680	0686	0693	0699	83.3	1	1	2	3
6.7	0699	0706	0712	0719	0725	0732	0738	0745	0751	0758	0764	83.2	1	1	2	3
6.8	0764	0771	0777	0784	0790	0796	0803	0809	0816	0822	0828	83.1	1	1	2	3
6.9	0828	0835	0841	0847	0854	0860	0866	0873	0879	0885	1.0891	83° 0	1	1	2	3
7° 0	1.0891	0898	0904	0910	0916	0923	0929	0935	0941	0947	0954	82.9	1	1	2	3
7.1	0954	0960	0966	0972	0978	0984	0991	0997	1003	1009	1015	82.8	1	1	2	3
7.2	1015	1021	1027	1033	1039	1045	1051	1058	1064	1070	1076	82.7	1	1	2	3
7.3	1076	1082	1088	1094	1100	1106	1112	1117	1123	1129	1135	82.6	1	1	2	3
7.4	1135	1141	1147	1153	1159	1165	1171	1177	1183	1188	1194	82.5	1	1	2	3
7.5	1194	1200	1206	1212	1218	1223	1229	1235	1241	1247	1252	82.4	1	1	2	3
7.6	1252	1258	1264	1270	1276	1281	1287	1293	1299	1304	1310	82.3	1	1	2	3
7.7	1310	1316	1321	1327	1333	1338	1344	1350	1355	1361	1367	82.2	1	1	2	3
7.8	1367	1372	1378	1384	1389	1395	1400	1406	1412	1417	1423	82.1	1	1	2	3
7.9	1423	1428	1434	1439	1445	1450	1456	1461	1467	1473	1.1478	82° 0	1	1	2	3
8° 0	1.1478	1484	1489	1494	1500	1505	1511	1516	1522	1527	1533	81.9	1	1	2	3
8.1	1533	1538	1544	1549	1554	1560	1565	1571	1576	1581	1587	81.8	1	1	2	3
8.2	1587	1592	1597	1603	1608	1613	1619	1624	1629	1635	1640	81.7	1	1	2	3
8.3	1640	1645	1651	1656	1661	1667	1672	1677	1682	1688	1693	81.6	1	1	2	3
8.4	1693	1698	1703	1709	1714	1719	1724	1729	1735	1740	1745	81.5	1	1	2	3
8.5	1745	1750	1755	1761	1766	1771	1776	1781	1786	1791	1797	81.4	1	1	2	3
8.6	1797	1802	1807	1812	1817	1822	1827	1832	1837	1842	1848	81.3	1	1	2	3
8.7	1848	1853	1858	1863	1868	1873	1878	1883	1888	1893	1898	81.2	1	1	2	3
8.8	1898	1903	1908	1913	1918	1923	1928	1933	1938	1943	1948	81.1	0	1	1	2
8.9	1948	1953	1958	1963	1968	1973	1977	1982	1987	1992	1.1997	81° 0	0	1	1	2
9° 0	1.1997	2002	2007	2012	2017	2022	2026	2031	2036	2041	2046	80.9	0	1	1	2
9.1	2046	2051	2056	2060	2065	2070	2075	2080	2085	2089	2094	80.8	0	1	1	2
9.2	2094	2099	2104	2109	2113	2118	2123	2128	2132	2137	2142	80.7	0	1	1	2
9.3	2142	2147	2151	2156	2161	2166	2170	2175	2180	2185	2189	80.6	0	1	1	2
9.4	2189	2194	2199	2203	2208	2213	2217	2222	2227	2231	2236	80.5	0	1	1	2
9.5	2236	2241	2245	2250	2255	2259	2264	2269	2273	2278	2282	80.4	0	1	1	2
9.6	2282	2287	2292	2296	2301	2305	2310	2315	2319	2324	2328	80.3	0	1	1	2
9.7	2328	2333	2337	2342	2346	2351	2356	2360	2365	2369	2374	80.2	0	1	1	2
9.8	2374	2378	2383	2387	2392	2396	2401	2405	2410	2414	2419	80.1	0	1	1	2
9.9	1.2419	2423	2428	2432	2437	2441	2445	2450	2454	2459	1.2463	80° 0	0	1	1	2

Log Tan

Log Cotan

		.9	.8	.7	.6	.5	.4	.3	.2	.1	.0		
	0	1	2	3	4	5	6	7	8	9			
0°	-∞	3.2419	5429	7190	8439	9409	0200	0870	1450	1962	2.2419	-∞	90°
1	2.2419	2833	3211	3559	3881	4181	4461	4725	4973	5208	5431		89
2	5431	5643	5845	6038	6223	6401	6571	6736	6894	7046	7194		88
3	7194	7337	7475	7609	7739	7865	7988	8107	8223	8336	8446		87
4	8446	8554	8659	8762	8862	8960	9056	9150	9241	9331	2.9420		86
5	2.9420	9506	9591	9674	9756	9836	9915	9992	0068	0143	1.0216		85
6	1.0216	0289	0360	0430	0499	0567	0633	0699	0764	0828	0891		84
7	0891	0954	1015	1076	1135	1194	1252	1310	1367	1423	1478		83
8	1478	1533	1587	1640	1693	1745	1797	1848	1898	1948	1997		82
9	1997	2046	2094	2142	2189	2236	2282	2328	2374	2419	1.2463		81
10°	1.2463	2507	2551	2594	2637	2680	2722	2764	2805	2846	2887		80°
11	2887	2927	2967	3006	3046	3085	3123	3162	3200	3237	3275		79
12	3275	3312	3349	3385	3422	3458	3493	3529	3564	3599	3634		78
13	3634	3668	3702	3736	3770	3804	3837	3870	3903	3935	3968		77
14	3968	4000	4032	4064	4095	4127	4158	4189	4220	4250	4281		76
15	4281	4311	4341	4371	4400	4430	4459	4488	4517	4546	4575		75
16	4575	4603	4632	4660	4688	4716	4744	4771	4799	4826	4853		74
17	4853	4880	4907	4934	4961	4987	5014	5040	5066	5092	5118		73
18	5118	5143	5169	5195	5220	5245	5270	5295	5320	5345	5370		72
19	5370	5394	5419	5443	5467	5491	5516	5539	5563	5587	1.5611		71
20°	1.5611	5634	5658	5681	5704	5727	5750	5773	5796	5819	5842		70°
21	5842	5864	5887	5909	5932	5954	5976	5998	6020	6042	6064		69
22	6064	6086	6108	6129	6151	6172	6194	6215	6236	6257	6279		68
23	6279	6300	6321	6341	6362	6383	6404	6424	6445	6465	6486		67
24	6486	6506	6527	6547	6567	6587	6607	6627	6647	6667	6687		66
25	6687	6706	6726	6746	6765	6785	6804	6824	6843	6863	6882		65
26	6882	6901	6920	6939	6958	6977	6996	7015	7034	7053	7072		64
27	7072	7090	7109	7128	7146	7165	7183	7202	7220	7238	7257		63
28	7257	7275	7293	7311	7330	7348	7366	7384	7402	7420	7438		62
29	7438	7455	7473	7491	7509	7526	7544	7562	7579	7597	1.7614		61
30°	1.7614	7632	7649	7667	7684	7701	7719	7736	7753	7771	7788		60°
31	7788	7805	7822	7839	7856	7873	7890	7907	7924	7941	7958		59
32	7958	7975	7992	8008	8025	8042	8059	8075	8092	8109	8125		58
33	8125	8142	8158	8175	8191	8208	8224	8241	8257	8274	8290		57
34	8290	8306	8323	8339	8355	8371	8388	8404	8420	8436	8452		56
35	8452	8468	8484	8501	8517	8533	8549	8565	8581	8597	8613		55
36	8613	8629	8644	8660	8676	8692	8708	8724	8740	8755	8771		54
37	8771	8787	8803	8818	8834	8850	8865	8881	8897	8912	8928		53
38	8928	8944	8959	8975	8990	9006	9022	9037	9053	9068	9084		52
39	9084	9099	9115	9130	9146	9161	9176	9192	9207	9223	1.9238		51
40°	1.9238	9254	9269	9284	9300	9315	9330	9346	9361	9376	9392		50°
41	9392	9407	9422	9438	9453	9468	9483	9499	9514	9529	9544		49
42	9544	9560	9575	9590	9605	9621	9636	9651	9666	9681	9697		48
43	9697	9712	9727	9742	9757	9772	9788	9803	9818	9833	1.9848		47
44	1.9848	9864	9879	9894	9909	9924	9939	9955	9970	9985	0.0000		46
45°	0.0000												45°

Tenths of the
Tabular Difference
1 2 3 4 5

To avoid interpolation in the first ten lines use the special table on the preceding page.

(Ordinary interpolation would not be accurate in the first three lines.)

4 8 13 17 21

4 8 12 16 19

4 7 11 14 18

3 7 10 13 17

3 6 9 13 16

3 6 9 12 15

3 6 8 11 14

3 5 8 11 13

3 5 8 10 13

2 5 7 10 12

2 5 7 10 12

2 4 7 9 11

2 4 6 9 11

2 4 6 8 10

2 4 6 8 10

2 4 6 8 10

2 4 6 8 9

2 4 6 7 9

2 4 5 7 9

2 4 5 7 9

2 3 5 7 9

2 3 5 7 9

2 3 5 7 8

2 3 5 7 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

2 3 5 6 8

Log Tan

Log Cotan

0 1 2 3 4 5 6 7 8 9												Tenths of the Tabular Difference				
												1	2	3	4	5

Log Tan

Log Cotan

											Tenths of the Tabular Difference				
											1 2 3 4 5				

Log Tan

Log Cotan

<div>9 8 7 6 5 4 3 2 1 0</div>												Tenths of the Tabular Difference					
0	1	2	3	4	5	6	7	8	9			1	2	3	4	5	
85° 0	1.0580	0589	0598	0607	0616	0624	0633	0642	0651	0660	1.0669	4.9	1	2	3	4	4
85.1	0669	0678	0687	0695	0704	0713	0722	0731	0740	0750	0759	4.8	1	2	3	4	4
85.2	0759	0768	0777	0786	0795	0804	0814	0823	0832	0841	0850	4.7	1	2	3	4	5
85.3	0850	0860	0869	0878	0888	0897	0907	0916	0925	0935	0944	4.6	1	2	3	4	5
85.4	0944	0954	0963	0973	0982	0992	1002	1011	1021	1030	1040	4.5	1	2	3	4	5
85.5	1040	1050	1060	1069	1079	1089	1099	1109	1118	1128	1138	4.4	1	2	3	4	5
85.6	1138	1148	1158	1168	1178	1188	1198	1208	1218	1228	1238	4.3	1	2	3	4	5
85.7	1238	1249	1259	1269	1279	1289	1300	1310	1320	1331	1341	4.2	1	2	3	4	5
85.8	1341	1351	1362	1372	1383	1393	1404	1414	1425	1435	1446	4.1	1	2	3	4	5
85.9	1446	1457	1467	1478	1489	1499	1510	1521	1532	1543	1.1554	4° 0	1	2	3	4	5
86° 0	1.1554	1564	1575	1586	1597	1608	1619	1630	1642	1653	1664	3.9	1	2	3	4	6
86.1	1664	1675	1686	1698	1709	1720	1731	1743	1754	1766	1777	3.8	1	2	3	5	6
86.2	1777	1788	1800	1812	1823	1835	1846	1858	1870	1881	1893	3.7	1	2	3	5	6
86.3	1893	1905	1917	1929	1941	1952	1964	1976	1988	2000	2012	3.6	1	2	4	5	6
86.4	2012	2025	2037	2049	2061	2073	2086	2098	2110	2123	2135	3.5	1	2	4	5	6
86.5	2135	2148	2160	2173	2185	2198	2210	2223	2236	2249	2261	3.4	1	3	4	5	6
86.6	2261	2274	2287	2300	2313	2326	2339	2352	2365	2378	2391	3.3	1	3	4	5	6
86.7	2391	2404	2418	2431	2444	2458	2471	2485	2498	2512	2525	3.2	1	3	4	5	7
86.8	2525	2539	2552	2566	2580	2594	2608	2621	2635	2649	2663	3.1	1	3	4	6	7
86.9	2663	2677	2692	2706	2720	2734	2748	2763	2777	2792	1.2806	3° 0	1	3	4	6	7
87° 0	1.2806	2821	2835	2850	2864	2879	2894	2909	2924	2939	2954	2.9	1	3	4	6	7
87.1	2954	2969	2984	2999	3014	3029	3044	3060	3075	3091	3106	2.8	2	3	5	6	8
87.2	3106	3122	3137	3153	3169	3185	3200	3216	3232	3248	3264	2.7	2	3	5	6	8
87.3	3264	3281	3297	3313	3329	3346	3362	3379	3395	3412	3429	2.6	2	3	5	7	8
87.4	3429	3445	3462	3479	3496	3513	3530	3547	3564	3582	3599	2.5	2	3	5	7	9
87.5	3599	3616	3634	3652	3669	3687	3705	3723	3740	3758	3777	2.4	2	4	5	7	9
87.6	3777	3795	3813	3831	3850	3868	3887	3905	3924	3943	3962	2.3	2	4	6	7	9
87.7	3962	3981	4000	4019	4038	4057	4077	4096	4116	4135	4155	2.2	2	4	6	8	10
87.8	4155	4175	4195	4215	4235	4255	4275	4295	4316	4336	4357	2.1	2	4	6	8	10
87.9	4357	4378	4399	4420	4441	4462	4483	4504	4526	4547	1.4569	2° 0	2	4	6	8	11
88° 0	1.4569	4591	4613	4635	4657	4679	4702	4724	4747	4769	4792	1.9	2	4	7	9	11
88.1	4792	4815	4838	4861	4885	4908	4932	4955	4979	5003	5027	1.8	2	5	7	9	12
88.2	5027	5051	5076	5100	5125	5149	5174	5199	5225	5250	5275	1.7	2	5	7	10	12
88.3	5275	5301	5327	5353	5379	5405	5432	5458	5485	5512	5539	1.6	3	5	8	11	13
88.4	5539	5566	5594	5621	5649	5677	5705	5733	5762	5790	5819	1.5	3	6	8	11	14
88.5	5819	5848	5878	5907	5937	5967	5997	6027	6057	6088	6119	1.4	3	6	9	12	15
88.6	6119	6150	6182	6213	6245	6277	6309	6342	6375	6408	6441	1.3	3	6	10	13	16
88.7	6441	6475	6508	6542	6577	6611	6646	6682	6717	6753	6789	1.2	3	7	10	14	17
88.8	6789	6825	6862	6899	6936	6974	7012	7050	7088	7127	7167	1.1	4	8	11	15	19
88.9	7167	7206	7246	7287	7328	7369	7410	7452	7495	7538	1.7581	1° 0					
89° 0	1.7581	7624	7669	7713	7758	7804	7850	7896	7943	7990	8038	0.9	To avoid interpolation in the last eleven lines, use nota.*				
89.1	8038	8087	8136	8186	8236	8287	8338	8390	8443	8496	8550	0.8					
89.2	8550	8605	8660	8716	8773	8830	8889	8948	9008	9068	9130	0.7					
89.3	9130	9193	9256	9320	9386	9452	9519	9588	9657	9728	1.9800	0.6					
89.4	1.9800	9873	9947	0022	0099	0177	0257	0338	0421	0505	2.0591	0.5					
89.5	2.0591	0679	0769	0860	0954	1049	1147	1246	1349	1453	1561	0.4	(Ordinary Interpolation would not be accurate in the last three lines.)				
89.6	1561	1671	1783	1899	2018	2140	2266	2396	2530	2668	2810	0.3					
89.7	2810	2957	3110	3268	3431	3602	3779	3964	4157	4359	4571	0.2					
89.8	4571	4794	5028	5277	5540	5820	6120	6442	6789	7167	2.7581	0.1					
89.9	2.7581	8039	8550	9130	9800	3.0592	1561	2810	4571	7581	∞	0° 0					

* When x is between $88^{\circ}.9$ and 90°
 $\log \tan x = -\log \operatorname{rad} (90^{\circ} - x)$

[See page 28]
 (27)

* When x is between 0° and $1^{\circ}.1$
 $\log \cot x = -\log \operatorname{rad} x$

These two pages give the common logarithms of "rad x " for angles x between 1° and 10° . Moving the decimal point n places to the right (or left) in the angle is equivalent to adding n (or $-n$) to the logarithm. Thus, $\log \text{rad } 0^\circ.0002778 = 2.6856 - 4 = 0.6856 - 6$. The abbreviation $\text{rad } x$ means the radian measure of x , or the ratio of arc to radius.

For angles x near 0° or 90° :—	When x is between 0° and $1^\circ.1$	When x is between $88^\circ.9$ and 90°
	$\log \sin x = \log \text{rad } x$	$\log \cos x = \log \text{rad } (90^\circ - x^\circ)$
	$\log \tan x = \log \text{rad } x$	$\log \text{ctn } x = \log \text{rad } (90^\circ - x^\circ)$
	$\log \text{ctn } x = -\log \text{rad } x$	$\log \tan x = -\log \text{rad } (90^\circ - x^\circ)$

Log Rad

												Tenths of the Tabular Difference				
												1	2	3	4	5
	0	1	2	3	4	5	6	7	8	9	10					
1° 0	2.2419	2462	2505	2547	2589	2631	2672	2713	2753	2793	2.2833	4	8	12	17	21
.1	2833	2872	2911	2950	2988	3026	3063	3101	3138	3174	3211	4	8	11	15	19
.2	3211	3247	3282	3318	3353	3388	3422	3457	3491	3525	3558	3	7	10	14	17
.3	3558	3591	3625	3657	3690	3722	3754	3786	3818	3849	3880	3	6	10	13	16
.4	3880	3911	3942	3972	4002	4032	4062	4092	4121	4151	4180	3	6	9	12	15
1° 5	2.4180	4209	4237	4266	4294	4322	4350	4378	4405	4433	2.4460	3	6	8	11	14
.6	4460	4487	4514	4541	4567	4594	4620	4646	4672	4698	4723	3	5	8	11	13
.7	4723	4749	4774	4799	4824	4849	4874	4899	4923	4947	4971	2	5	7	10	12
.8	4971	4996	5019	5043	5067	5090	5114	5137	5160	5183	5206	2	5	7	9	12
.9	5206	5229	5252	5274	5297	5319	5341	5363	5385	5407	5429	2	4	7	9	11
2° 0	2.5429	5451	5472	5494	5515	5536	5557	5578	5599	5620	2.5641	2	4	6	8	11
.1	5641	5662	5682	5703	5723	5743	5763	5783	5803	5823	5843	2	4	6	8	10
.2	5843	5863	5882	5902	5921	5941	5960	5979	5998	6017	6036	2	4	6	8	10
.3	6036	6055	6074	6092	6111	6129	6148	6166	6185	6203	6221	2	4	6	7	9
.4	6221	6239	6257	6275	6293	6310	6328	6346	6363	6381	6398	2	4	5	7	9
2° 5	2.6398	6416	6433	6450	6467	6484	6501	6518	6535	6552	2.6569	2	3	5	7	9
.6	6569	6585	6602	6618	6635	6651	6668	6684	6700	6716	6732	2	3	5	7	8
.7	6732	6748	6764	6780	6796	6812	6828	6844	6859	6875	6890	2	3	5	6	8
.8	6890	6906	6921	6937	6952	6967	6982	6998	7013	7028	7043	2	3	5	6	8
.9	7043	7058	7073	7087	7102	7117	7132	7146	7161	7175	7190	1	3	4	6	7
3° 0	2.7190	7204	7219	7233	7248	7262	7276	7290	7304	7318	2.7332	1	3	4	6	7
.1	7332	7346	7360	7374	7388	7402	7416	7429	7443	7457	7470	1	3	4	6	7
.2	7470	7484	7497	7511	7524	7538	7551	7564	7578	7591	7604	1	3	4	5	7
.3	7604	7617	7630	7643	7656	7669	7682	7695	7708	7721	7734	1	3	4	5	6
.4	7734	7746	7759	7772	7784	7797	7810	7822	7835	7847	7859	1	3	4	5	6
3° 5	2.7859	7872	7884	7897	7909	7921	7933	7945	7958	7970	2.7982	1	2	4	5	6
.6	7982	7994	8006	8018	8030	8042	8054	8065	8077	8089	8101	1	2	4	5	6
.7	8101	8113	8124	8136	8147	8159	8171	8182	8194	8205	8217	1	2	3	5	6
.8	8217	8228	8239	8251	8262	8273	8285	8296	8307	8318	8329	1	2	3	5	6
.9	8329	8341	8352	8363	8374	8385	8396	8407	8418	8429	8439	1	2	3	4	5
4° 0	2.8439	8450	8461	8472	8483	8493	8504	8515	8525	8536	2.8547	1	2	3	4	5
.1	8547	8557	8568	8578	8589	8599	8610	8620	8631	8641	8651	1	2	3	4	5
.2	8651	8662	8672	8682	8692	8703	8713	8723	8733	8743	8753	1	2	3	4	5
.3	8753	8764	8774	8784	8794	8804	8814	8824	8834	8843	8853	1	2	3	4	5
.4	8853	8863	8873	8883	8893	8902	8912	8922	8932	8941	8951	1	2	3	4	5
4° 5	2.8951	8961	8970	8980	8989	8999	9008	9018	9027	9037	2.9046	1	2	3	4	5
.6	9046	9056	9065	9075	9084	9093	9103	9112	9121	9131	9140	1	2	3	4	5
.7	9140	9149	9158	9167	9177	9186	9195	9204	9213	9222	9231	1	2	3	4	5
.8	9231	9240	9249	9258	9267	9276	9285	9294	9303	9312	9321	1	2	3	4	4
.9	9321	9330	9338	9347	9356	9365	9374	9382	9391	9400	9408	1	2	3	4	4

NOTE: $\log \text{rad } x = \log (\text{number of degrees in } x) + 0.2419 - 2$.
(28)

Log Rad

												Tenths of the Tabular Difference				
	0	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5
5° 0	2.9408	9417	9426	9434	9443	9452	9460	9469	9477	9486	2.9494	1	2	3	3	4
.1	9494	9503	9511	9520	9528	9537	9545	9554	9562	9570	9579	1	2	3	3	4
.2	9579	9587	9595	9604	9612	9620	9629	9637	9645	9653	9662	1	2	2	3	4
.3	9662	9670	9678	9686	9694	9702	9710	9719	9727	9735	9743	1	2	2	3	4
.4	9743	9751	9759	9767	9775	9783	9791	9799	9807	9814	9822	1	2	2	3	4
5° 5	2.9822	9830	9838	9846	9854	9862	9870	9877	9885	9893	9901	1	2	2	3	4
.6	9901	9908	9916	9924	9932	9939	9947	9955	9962	9970	2.9978	1	2	2	3	4
.7	2.9978	9985	9993	0000	0008	0015	0023	0031	0038	0046	1.0053	1	2	2	3	4
.8	1.0053	0061	0068	0075	0083	0090	0098	0105	0113	0120	0127	1	1	2	3	4
.9	0127	0135	0142	0149	0157	0164	0171	0179	0186	0193	0200	1	1	2	3	4
6° 0	1.0200	0208	0215	0222	0229	0236	0244	0251	0258	0265	1.0272	1	1	2	3	4
.1	0272	0279	0286	0293	0300	0308	0315	0322	0329	0336	0343	1	1	2	3	4
.2	0343	0350	0357	0364	0371	0378	0385	0391	0398	0405	0412	1	1	2	3	3
.3	0412	0419	0426	0433	0440	0447	0453	0460	0467	0474	0481	1	1	2	3	3
.4	0481	0487	0494	0501	0508	0514	0521	0528	0535	0541	0548	1	1	2	3	3
6° 5	1.0548	0555	0561	0568	0575	0581	0588	0594	0601	0608	1.0614	1	1	2	3	3
.6	0614	0621	0627	0634	0640	0647	0654	0660	0667	0673	0680	1	1	2	3	3
.7	0680	0686	0692	0699	0705	0712	0718	0725	0731	0737	0744	1	1	2	3	3
.8	0744	0750	0757	0763	0769	0776	0782	0788	0795	0801	0807	1	1	2	3	3
.9	0807	0814	0820	0826	0832	0839	0845	0851	0857	0864	0870	1	1	2	2	3
7° 0	1.0870	0876	0882	0888	0895	0901	0907	0913	0919	0925	1.0931	1	1	2	2	3
.1	0931	0937	0944	0950	0956	0962	0968	0974	0980	0986	0992	1	1	2	2	3
.2	0992	0998	1004	1010	1016	1022	1028	1034	1040	1046	1052	1	1	2	2	3
.3	1052	1058	1064	1070	1076	1082	1088	1093	1099	1105	1111	1	1	2	2	3
.4	1111	1117	1123	1129	1135	1140	1146	1152	1158	1164	1169	1	1	2	2	3
7° 5	1.1169	1175	1181	1187	1192	1198	1204	1210	1215	1221	1.1227	1	1	2	2	3
.6	1227	1233	1238	1244	1250	1255	1261	1267	1272	1278	1284	1	1	2	2	3
.7	1284	1289	1295	1301	1306	1312	1317	1323	1329	1334	1340	1	1	2	2	3
.8	1340	1345	1351	1356	1362	1367	1373	1379	1384	1390	1395	1	1	2	2	3
.9	1395	1401	1406	1412	1417	1422	1428	1433	1439	1444	1450	1	1	2	2	3
8° 0	1.1450	1455	1461	1466	1471	1477	1482	1488	1493	1498	1.1504	1	1	2	2	3
.1	1504	1509	1514	1520	1525	1530	1536	1541	1546	1552	1557	1	1	2	2	3
.2	1557	1562	1567	1573	1578	1583	1589	1594	1599	1604	1610	1	1	2	2	3
.3	1610	1615	1620	1625	1630	1636	1641	1646	1651	1656	1662	1	1	2	2	3
.4	1662	1667	1672	1677	1682	1687	1692	1698	1703	1708	1713	1	1	2	2	3
8° 5	1.1713	1718	1723	1728	1733	1738	1744	1749	1754	1759	1.1764	1	1	2	2	3
.6	1764	1769	1774	1779	1784	1789	1794	1799	1804	1809	1814	1	1	2	2	3
.7	1814	1819	1824	1829	1834	1839	1844	1849	1854	1859	1864	0	1	1	2	2
.8	1864	1869	1873	1878	1883	1888	1893	1898	1903	1908	1913	0	1	1	2	2
.9	1913	1918	1922	1927	1932	1937	1942	1947	1952	1956	1961	0	1	1	2	2
9° 0	1.1961	1966	1971	1976	1980	1985	1990	1995	2000	2004	1.2009	0	1	1	2	2
.1	2009	2014	2019	2023	2028	2033	2038	2042	2047	2052	2057	0	1	1	2	2
.2	2057	2061	2066	2071	2075	2080	2085	2090	2094	2099	2104	0	1	1	2	2
.3	2104	2108	2113	2118	2122	2127	2132	2136	2141	2145	2150	0	1	1	2	2
.4	2150	2155	2159	2164	2168	2173	2178	2182	2187	2191	2196	0	1	1	2	2
9° 5	1.2196	2201	2205	2210	2214	2219	2223	2228	2232	2237	1.2241	0	1	1	2	2
.6	2241	2246	2251	2255	2260	2264	2269	2273	2278	2282	2286	0	1	1	2	2
.7	2286	2291	2295	2300	2304	2309	2313	2318	2322	2327	2331	0	1	1	2	2
.8	2331	2335	2340	2344	2349	2353	2358	2362	2366	2371	2375	0	1	1	2	2
.9	2375	2380	2384	2388	2393	2397	2401	2406	2410	2414	2419	0	1	1	2	2

Exponentials

n	e^n	Diff.	n	e^n	Diff.	n	e^n	n	e^{-n}	Diff.	n	e^{-n}	Diff.	n	e^{-n}
0.00	1.000	10	0.50	1.649	16	1.0	2.718 *	0.00	1.000	-10	0.50	.607	-7	1.0	.368 *
.01	1.010	10	.51	1.665	17	.1	3.004	.01	0.990	-10	.51	.600	-5	.1	.333
.02	1.020	10	.52	1.682	17	.2	3.320	.02	.980	-10	.52	.595	-6	.2	.301
.03	1.030	11	.53	1.699	17	.3	3.669	.03	.970	-9	.53	.589	-6	.3	.273
.04	1.041	10	.54	1.716	17	.4	4.055	.04	.961	-10	.54	.583	-6	.4	.247
0.05	1.051	11	0.55	1.733	18	1.5	4.482	0.05	.951	-9	0.55	.577	-6	1.5	.223
.06	1.062	11	.56	1.751	17	.6	4.953	.06	.942	-9	.56	.571	-6	.6	.202
.07	1.073	10	.57	1.768	18	.7	5.474	.07	.932	-10	.57	.566	-5	.7	.183
.08	1.083	11	.58	1.786	18	.8	6.050	.08	.923	-9	.58	.560	-6	.8	.165
.09	1.094	11	.59	1.804	18	.9	6.686	.09	.914	-9	.59	.554	-5	.9	.150
0.10	1.105	11	0.60	1.822	18	2.0	7.389	0.10	.905	-9	0.60	.549	-6	2.0	.135
.11	1.116	11	.61	1.840	19	.1	8.166	.11	.896	-9	.61	.543	-5	.1	.122
.12	1.127	12	.62	1.859	19	.2	9.025	.12	.887	-9	.62	.538	-5	.2	.111
.13	1.139	11	.63	1.878	19	.3	9.974	.13	.878	-9	.63	.533	-5	.3	.100
.14	1.150	12	.64	1.896	20	.4	11.02	.14	.869	-8	.64	.527	-5	.4	.0907
0.15	1.162	12	0.65	1.916	19	2.5	12.18	0.15	.861	-9	0.65	.522	-5	2.5	.0821
.16	1.174	11	.66	1.935	19	.6	13.46	.16	.852	-8	.66	.517	-5	.6	.0743
.17	1.185	12	.67	1.954	20	.7	14.88	.17	.844	-9	.67	.512	-5	.7	.0672
.18	1.197	12	.68	1.974	20	.8	16.44	.18	.835	-9	.68	.507	-5	.8	.0608
.19	1.209	12	.69	1.994	20	.9	18.17	.19	.827	-8	.69	.502	-5	.9	.0550
0.20	1.221	13	0.70	2.014	20	3.0	20.09	0.20	.819	-8	0.70	.497	-5	3.0	.0498
.21	1.234	12	.71	2.034	20	.1	22.20	.21	.811	-8	.71	.492	-5	.1	.0450
.22	1.246	13	.72	2.054	21	.2	24.53	.22	.803	-8	.72	.487	-5	.2	.0408
.23	1.259	12	.73	2.075	21	.3	27.11	.23	.795	-8	.73	.482	-5	.3	.0369
.24	1.271	13	.74	2.096	21	.4	29.96	.24	.787	-8	.74	.477	-5	.4	.0334
0.25	1.284	13	0.75	2.117	21	3.5	33.12	0.25	.779	-8	0.75	.472	-5	3.5	.0302
.26	1.297	13	.76	2.138	22	.6	36.60	.26	.771	-8	.76	.468	-5	.6	.0273
.27	1.310	13	.77	2.160	22	.7	40.45	.27	.763	-7	.77	.463	-5	.7	.0247
.28	1.323	13	.78	2.181	22	.8	44.70	.28	.756	-8	.78	.458	-4	.8	.0224
.29	1.336	14	.79	2.203	23	.9	49.40	.29	.748	-7	.79	.454	-5	.9	.0202
0.30	1.350	13	0.80	2.226	22	4.0	54.60	0.30	.741	-8	0.80	.449	-5	4.0	.0183
.31	1.363	14	.81	2.248	22	.1	60.34	.31	.733	-7	.81	.445	-5	.1	.0166
.32	1.377	14	.82	2.270	23	.2	66.69	.32	.726	-7	.82	.440	-4	.2	.0150
.33	1.391	14	.83	2.293	23	.3	73.70	.33	.719	-7	.83	.436	-4	.3	.0136
.34	1.405	14	.84	2.316	24	.4	81.45	.34	.712	-7	.84	.432	-5	.4	.0123
0.35	1.419	14	0.85	2.340	23	4.5	90.02	0.35	.705	-7	0.85	.427	-4	4.5	.0111
.36	1.433	15	.86	2.363	24	5.	148.4	.36	.698	-7	.86	.423	-4	5.	.00674
.37	1.448	14	.87	2.387	24	6.	403.4	.37	.691	-7	.87	.419	-4	6.	.00248
.38	1.462	15	.88	2.411	24	7.	1097.	.38	.684	-7	.88	.415	-4	7.	.000912
.39	1.477	15	.89	2.435	25	8.	2981.	.39	.677	-7	.89	.411	-4	8.	.000335
0.40	1.492	15	0.90	2.460	24	9.	8103.	0.40	.670	-6	0.90	.407	-4	9.	.000123
.41	1.507	15	.91	2.484	25	10.	22026.	.41	.664	-7	.91	.403	-4	10.	.000045
.42	1.522	15	.92	2.509	26	$\pi/2$	4.810	.42	.657	-6	.92	.399	-4	$\pi/2$.208
.43	1.537	16	.93	2.535	25	$2\pi/2$	23.14	.43	.651	-7	.93	.395	-4	$2\pi/2$.0432
.44	1.553	15	.94	2.560	26	$3\pi/2$	111.3	.44	.644	-6	.94	.391	-4	$3\pi/2$.00898
0.45	1.568	16	0.95	2.586	26	$4\pi/2$	535.5	0.45	.638	-7	0.95	.387	-4	$4\pi/2$.00187
.46	1.584	16	.96	2.612	26	$5\pi/2$	2576.	.46	.631	-6	.96	.383	-4	$5\pi/2$.000388
.47	1.600	16	.97	2.638	26	$6\pi/2$	12392.	.47	.625	-6	.97	.379	-4	$6\pi/2$.000081
.48	1.616	16	.98	2.664	27	$7\pi/2$	59610.	.48	.619	-6	.98	.375	-3	$7\pi/2$.000017
.49	1.632	17	.99	2.691	27	$8\pi/2$	286751.	.49	.613	-6	.99	.372	-4	$8\pi/2$.000003
0.50	1.649		1.00	2.718				0.50	0.607		1.00	.368			

* NOTE: Do not interpolate in third and sixth columns.

$$e = 2.71828$$

$$1/e = 0.367879$$

$$\log_{10} e = 0.4343$$

$$1/(0.4343) = 2.3026$$

$$\sinh x = \frac{1}{2}(e^x - e^{-x})$$

$$\cosh x = \frac{1}{2}(e^x + e^{-x})$$

$$\log_{10}(0.4343) = \bar{1}.6378$$

$$\log_{10}(e^n) = n(0.4343)$$

Moving the decimal point <i>k</i> places to the right (or left) in the number is equivalent to adding <i>k</i> times 2.30259 (or $-k$ times 2.30259) to the logarithm.	<i>k</i>	$\log_e (10^k)$	5	11.51293
	1	2.30259	6	13.81551
	2	4.60517	7	16.11810
	3	6.90776	8	18.42068
	4	9.21034	9	20.72327

Log_e (Base e=2.71828+)

012345678910												Tenths of the Tabular Difference 12345				
.1	-2.303	-2.207	-2.120	-2.040	-1.966	-1.897	-1.833	-1.772	-1.715	-1.661	-1.609	Range of Differences	96—52			
.2	-1.609	-1.561	-1.514	-1.470	-1.427	-1.386	-1.347	-1.309	-1.273	-1.238	-1.204		48—34			
.3	-1.204	-1.171	-1.139	-1.109	-1.079	-1.050	-1.022	-0.994	-0.968	-0.942	-0.916		33—26			
.4	-.9163	-.8916	-.8675	-.8440	-.8210	-.7985	-.7765	-.7550	-.7340	-.7133	-.6931		247—202			
.5	-.6931	-.6733	-.6539	-.6349	-.6162	-.5978	-.5798	-.5621	-.5447	-.5276	-.5108		198—168			
.6	-.5108	-.4943	-.4780	-.4620	-.4463	-.4308	-.4155	-.4005	-.3857	-.3711	-.3567		165—144			
.7	-.3567	-.3425	-.3285	-.3147	-.3011	-.2877	-.2744	-.2614	-.2485	-.2357	-.2231		142—126			
.8	-.2231	-.2107	-.1985	-.1863	-.1744	-.1625	-.1508	-.1393	-.1278	-.1165	-.1054		124—111			
.9	-.10536	-.09431	-.08338	-.07257	-.06188	-.05129	-.04082	-.03046	-.02020	-.01005	.00000		1105—1005			
1.00	.00000	.00100	.00200	.00300	.00399	.00499	.00598	.00698	.00797	.00896	.00995		10 20 30 40 50			
1.01	.00995	.01094	.01193	.01292	.01390	.01489	.01587	.01686	.01784	.01882	.01980	10 20 30 39 49				
1.02	.01980	.02078	.02176	.02274	.02372	.02469	.02567	.02664	.02762	.02859	.02956	10 20 29 39 49				
1.03	.02956	.03053	.03150	.03247	.03343	.03440	.03537	.03633	.03730	.03826	.03922	10 19 29 39 48				
1.04	.03922	.04018	.04114	.04210	.04306	.04402	.04497	.04593	.04688	.04784	.04879	10 19 29 38 48				
1.05	.04879	.04974	.05069	.05164	.05259	.05354	.05449	.05543	.05638	.05733	.05827	9 19 28 38 47				
1.06	.05827	.05921	.06015	.06110	.06204	.06297	.06391	.06485	.06579	.06672	.06766	9 19 28 38 47				
1.07	.06766	.06859	.06953	.07046	.07139	.07232	.07325	.07418	.07511	.07603	.07696	9 19 28 37 47				
1.08	.07696	.07789	.07881	.07973	.08066	.08158	.08250	.08342	.08434	.08526	.08618	9 18 28 37 46				
1.09	.08618	.08709	.08801	.08893	.08984	.09075	.09167	.09258	.09349	.09440	.09531	9 18 27 37 46				
1.1	.0953	.1044	.1133	.1222	.1310	.1398	.1484	.1570	.1655	.1740	.1823	9 18 27 36 44				
1.2	.1823	.1906	.1989	.2070	.2151	.2231	.2311	.2390	.2469	.2546	.2624	9 17 26 34 43				
1.3	.2624	.2700	.2776	.2852	.2927	.3001	.3075	.3148	.3221	.3293	.3365	8 16 24 31 39				
1.4	.3365	.3436	.3507	.3577	.3646	.3716	.3784	.3853	.3920	.3988	.4055	7 15 22 30 37				
1.5	.4055	.4121	.4187	.4253	.4318	.4383	.4447	.4511	.4574	.4637	.4700	6 13 19 26 32				
1.6	.4700	.4762	.4824	.4886	.4947	.5008	.5068	.5128	.5188	.5247	.5306	6 12 18 24 30				
1.7	.5306	.5365	.5423	.5481	.5539	.5596	.5653	.5710	.5766	.5822	.5878	6 11 17 23 29				
1.8	.5878	.5933	.5988	.6043	.6098	.6152	.6206	.6259	.6313	.6366	.6419	5 11 16 22 27				
1.9	.6419	.6471	.6523	.6575	.6627	.6678	.6729	.6780	.6831	.6881	.6931	5 10 15 21 26				
2.0	.6931	.6981	.7031	.7080	.7129	.7178	.7227	.7275	.7324	.7372	.7419	5 10 15 20 24				
2.1	.7419	.7467	.7514	.7561	.7608	.7655	.7701	.7747	.7793	.7839	.7885	5 9 14 19 23				
2.2	.7885	.7930	.7975	.8020	.8065	.8109	.8154	.8198	.8242	.8286	.8329	4 9 13 18 22				
2.3	.8329	.8372	.8416	.8459	.8502	.8544	.8587	.8629	.8671	.8713	.8755	4 9 13 17 21				
2.4	.8755	.8796	.8838	.8879	.8920	.8961	.9002	.9042	.9083	.9123	.9163	4 8 12 16 20				
2.5	.9163	.9203	.9243	.9282	.9322	.9361	.9400	.9439	.9478	.9517	.9555	4 8 12 16 20				
2.6	.9555	.9594	.9632	.9670	.9708	.9746	.9783	.9821	.9858	.9895	.9933	4 8 11 15 19				
2.7	0.9933	0.9969	1.0006	1.0043	1.0080	1.0116	1.0152	1.0188	1.0225	1.0260	1.0296	4 7 11 15 18				
2.8	1.0296	1.0332	1.0367	1.0403	1.0438	1.0473	1.0508	1.0543	1.0578	1.0613	1.0647	4 7 11 14 18				
2.9	1.0647	1.0682	1.0716	1.0750	1.0784	1.0818	1.0852	1.0886	1.0919	1.0953	1.0986	3 7 10 14 17				
3.	1.099	1.131	1.163	1.194	1.224	1.253	1.281	1.308	1.335	1.361	1.386	3 6 9 12 15				
4.	1.386	1.411	1.435	1.459	1.482	1.504	1.526	1.548	1.569	1.589	1.609	3 5 8 11 13				
5.	1.609	1.629	1.649	1.668	1.686	1.705	1.723	1.740	1.758	1.775	1.792	2 5 9 12 15				
6.	1.792	1.808	1.825	1.841	1.856	1.872	1.887	1.902	1.917	1.932	1.946	2 3 5 6 8				
7.	1.946	1.960	1.974	1.988	2.001	2.015	2.028	2.041	2.054	2.067	2.079	1 3 4 5 7				
8.	2.079	2.092	2.104	2.116	2.128	2.140	2.152	2.163	2.175	2.186	2.197	1 2 4 5 6				
9.	2.197	2.208	2.219	2.230	2.241	2.251	2.262	2.272	2.282	2.293	2.303	1 2 3 4 5				

log_e 10=2.3025851 log_e x=(2.3026)log₁₀ x (31) log₁₀ e=0.43429448 log₁₀ x=(0.4343)log_e x

Radians

From Radians into Degrees

0°	.0000	50°	0.8727	30°	0.5236=	$\pi/6$
1	.0175	1	.8901	45°	0.7854=	$\pi/4$
2	.0349	2	.9076	60°	1.0472=	$\pi/3$
3	.0524	3	.9250			
4	.0698	4	.9425	90°	1.5708=	$\pi/2$
5	.0873	55	.9599	100	1.7453	
6	.1047	6	.9774	110	1.9199	
7	.1222	7	0.9948	120°	2.0944=	$2\pi/3$
8	.1396	8	1.0123	130	2.2689	
9	.1571	9	1.0297	135°	2.3562=	$3\pi/4$
10°	.1745	60°	1.0472	140	2.4435	
1	.1920	1	1.0647	150°	2.6180=	$5\pi/6$
2	.2094	2	1.0821	160	2.7925	
3	.2269	3	1.0996	170	2.9671	
4	.2443	4	1.1170	180°	3.1416=	π
15	.2618	65	1.1345	190	3.3161	
6	.2793	6	1.1519	200	3.4907	
7	.2967	7	1.1694	210°	3.6652=	$7\pi/6$
8	.3142	8	1.1868	220	3.8397	
9	.3316	9	1.2043	225°	3.9270=	$5\pi/4$
20°	.3491	70°	1.2217	230	4.0143	
1	.3665	1	1.2392	240°	4.1888=	$4\pi/3$
2	.3840	2	1.2566	250	4.3633	
3	.4014	3	1.2741	260	4.5379	
4	.4189	4	1.2915	270°	4.7124=	$3\pi/2$
25	.4363	75	1.3090	280	4.8869	
6	.4538	6	1.3265	290	5.0615	
7	.4712	7	1.3439	300°	5.2360=	$5\pi/3$
8	.4887	8	1.3614	310	5.4105	
9	.5061	9	1.3788	315°	5.4978=	$7\pi/4$
30°	.5236	80°	1.3963	320	5.5851	
1	.5411	1	1.4137	330°	5.7596=	$11\pi/6$
2	.5585	2	1.4312	340	5.9341	
3	.5760	3	1.4486	350	6.1087	
4	.5934	4	1.4661	360°	6.2832=	2π
35	.6109	85	1.4835			
6	.6283	6	1.5010			
7	.6458	7	1.5184			
8	.6632	8	1.5359			
9	.6807	9	1.5533			
40°	.6981	90°	1.5708			
1	.7156	1	1.5882			
2	.7330	2	1.6057			
3	.7505	3	1.6232			
4	.7679	4	1.6406			
45	.7854	95	1.6581			
6	.8029	6	1.6755			
7	.8203	7	1.6930			
8	.8378	8	1.7104			
9	.8552	9	1.7279			
50°	.8727	100°	1.7453			

Multiples of 360° or 2 π radians

1	360°	6.28319
2	720°	12.56637
3	1080°	18.84956
4	1440°	25.13274
5	1800°	31.41593
6	2160°	37.69911
7	2520°	43.98230
8	2880°	50.26548
9	3240°	56.54867
10	3600°	62.83185

0.00	0°00	0.50	28°65	1.00	57°30
.01	0°57	.51	29°22	.01	57°87
.02	1°15	.52	29°79	.02	58°44
.03	1°72	.53	30°37	.03	59°01
.04	2°29	.54	30°94	.04	59°59
0.05	2°86	0.55	31°51	1.05	60°16
.06	3°44	.56	32°09	.06	60°73
.07	4°01	.57	32°66	.07	61°31
.08	4°58	.58	33°23	.08	61°88
.09	5°16	.59	33°80	.09	62°45
0.10	5°73	0.60	34°38	1.10	63°03
.11	6°30	.61	34°95	.11	63°60
.12	6°88	.62	35°52	.12	64°17
.13	7°45	.63	36°10	.13	64°74
.14	8°02	.64	36°67	.14	65°32
0.15	8°59	0.65	37°24	1.15	65°89
.16	9°17	.66	37°82	.16	66°46
.17	9°74	.67	38°39	.17	67°04
.18	10°31	.68	38°96	.18	67°61
.19	10°89	.69	39°53	.19	68°18
0.20	11°46	0.70	40°11	1.20	68°75
.21	12°03	.71	40°68	.21	69°33
.22	12°61	.72	41°25	.22	69°90
.23	13°18	.73	41°83	.23	70°47
.24	13°75	.74	42°40	.24	71°05
0.25	14°32	0.75	42°97	1.25	71°62
.26	14°90	.76	43°54	.26	72°19
.27	15°47	.77	44°12	.27	72°77
.28	16°04	.78	44°69	.28	73°34
.29	16°62	.79	45°26	.29	73°91
0.30	17°19	0.80	45°84	1.30	74°48
.31	17°76	.81	46°41	.31	75°06
.32	18°33	.82	46°98	.32	75°63
.33	18°91	.83	47°56	.33	76°20
.34	19°48	.84	48°13	.34	76°78
0.35	20°05	0.85	48°70	1.35	77°35
.36	20°63	.86	49°27	.36	77°92
.37	21°20	.87	49°85	.37	78°50
.38	21°77	.88	50°42	.38	79°07
.39	22°35	.89	50°99	.39	79°64
0.40	22°92	0.90	51°57	1.40	80°21
.41	23°49	.91	52°14	.41	80°79
.42	24°06	.92	52°70	.42	81°36
.43	24°64	.93	53°29	.43	81°93
.44	25°21	.94	53°86	.44	82°51
0.45	25°78	0.95	54°43	1.45	83°08
.46	26°35	.96	55°00	.46	83°65
.47	26°93	.97	55°58	.47	84°22
.48	27°50	.98	56°15	.48	84°80
.49	28°07	.99	56°72	.49	85°37
0.50	28°65	1.00	57°30	1.50	85°94

1.	57°30
2.	114°59
3.	171°89
4.	229°18
5.	286°48
6.	343°77
7.	401°07
8.	458°37
9.	515°66
10.	572°96

0.001	0°06	0.0001	°01
.002	°11	.0002	°01
.003	°17	.0003	°02
.004	°23	.0004	°02
.005	°29	.0005	°03
.006	°34	.0006	°03
.007	°40	.0007	°04
.008	°46	.0008	°05
.009	°52	.0009	°05

1.5708	90°
3.1416	180°
4.7124	270°
6.2832	360°
.51	86°52
.52	87°09
.53	87°66
.54	88°24
1.55	88°81
.56	89°38
1.57	89°95

1 radian = $180^\circ/\pi = 57^\circ.29578$

$1^\circ = \pi/180 = 0.0174533$ radians.

$\log(x \text{ in radians}) = \log(x \text{ in degrees}) + 0.2419 - 2$

$\log(x \text{ in degrees}) = \log(x \text{ in radians}) + 1.7581$

Condensed Table of Trigonometric Functions

Constants

Interpolation at points marked (*) may be inaccurate. vers $x=1-\cos x$; covers $x=1-\sin x$.

rad	Deg.	sin	tan	sec	vers	covers	csc	ctn	cos
0.0000	0°	0.0000	0.0000	1.000	0.0000	1.000	∞	∞	1.000
.0175	1	.0175	.0175	1.000	.0002	0.983	57.30*	57.29*	1.000
.0349	2	.0349	.0349	1.001	.0006	.965	28.65*	28.64*	0.999
.0524	3	.0523	.0524	1.001	.0014	.948	19.11*	19.08*	.999
.0698	4	.0698	.0699	1.002	.0024	.930	14.34*	14.30*	.998
0.0873	5°	0.0872	0.0875	1.004	0.0038	0.913	11.47*	11.43*	0.996
.1047	6	.1045	.1051	1.006	.0055	.895	9.57*	9.51*	.995
.1222	7	.1219	.1228	1.008	.0075	.878	8.21*	8.14*	.993
.1396	8	.1392	.1405	1.010	.0097	.861	7.19*	7.12*	.990
.1571	9	.1564	.1584	1.012	.0123	.844	6.39*	6.31*	.988
0.1745	10°	0.1736	0.1763	1.015	0.0152	0.826	5.76*	5.67*	0.985
.1920	11	.1908	.1944	1.019	.0184	.809	5.24	5.14	.982
.2094	12	.2079	.2126	1.022	.0219	.792	4.81	4.70	.978
.2269	13	.2250	.2309	1.026	.0256	.775	4.45	4.33	.974
.2443	14	.2419	.2493	1.031	.0297	.758	4.13	4.01	.970
0.262	15°	0.259	0.268	1.035	0.0341	0.741	3.86	3.73	0.966
.279	16	.276	.287	1.040	.0387	.724	3.63	3.49	.961
.297	17	.292	.306	1.046	.0437	.708	3.42	3.27	.956
.314	18	.309	.325	1.051	.0489	.691	3.24	3.08	.951
.332	19	.326	.344	1.058	.0545	.674	3.07	2.90	.946
0.349	20°	0.342	0.364	1.064	0.0603	0.658	2.92	2.75	0.940
.367	21	.358	.384	1.071	.0664	.642	2.79	2.61	.934
.384	22	.375	.404	1.079	.0728	.625	2.67	2.48	.927
.401	23	.391	.424	1.086	.0795	.609	2.56	2.36	.921
.419	24	.407	.445	1.095	.0865	.593	2.46	2.25	.914
0.436	25°	0.423	0.466	1.103	0.0937	0.577	2.37	2.14	0.906
.454	26	.438	.488	1.113	.1012	.562	2.28	2.050	.899
.471	27	.454	.510	1.122	.1090	.546	2.20	1.963	.891
.489	28	.469	.532	1.133	.1171	.531	2.13	1.881	.883
.506	29	.485	.554	1.143	.1254	.515	2.06	1.804	.875
0.524	30°	0.500	0.577	1.155	0.1340	0.500	2.00	1.732	0.866
.541	31	.515	.601	1.167	.1428	.485	1.942	1.664	.857
.559	32	.530	.625	1.179	.1520	.470	1.887	1.600	.848
.576	33	.545	.649	1.192	.1613	.455	1.836	1.540	.839
.593	34	.559	.675	1.206	.1710	.441	1.788	1.483	.829
0.611	35°	0.574	0.700	1.221	0.1808	0.426	1.743	1.428	0.819
.628	36	.588	.727	1.236	.1910	.412	1.701	1.376	.809
.646	37	.602	.754	1.252	.2014	.398	1.662	1.327	.799
.663	38	.616	.781	1.269	.2120	.384	1.624	1.280	.788
.681	39	.629	.810	1.287	.2229	.371	1.589	1.235	.777
0.698	40°	0.643	0.839	1.305	0.234	0.357	1.556	1.192	0.766
.716	41	.656	.869	1.325	.245	.344	1.524	1.150	.755
.733	42	.669	.900	1.346	.257	.331	1.494	1.111	.743
.750	43	.682	.933	1.367	.269	.318	1.466	1.072	.731
.768	44	.695	0.966	1.390	.281	.305	1.440	1.036	.719
0.785	45°	0.707	1.000	1.414	0.293	0.293	1.414	1.000	0.707
<div>cos ctn csc covers vers sec tan sin</div> <div>rad</div>									

- $\pi=3.14159265$
 $e=2.71828183$
- 1 mile=5280 ft.
- 30 mi. per hr.
=44 ft. per sec.
- 1 nautical mile
=6080.3 ft.
=1.1516 mi.
- 1 rod=16½ ft.
- 1 acre
=160 sq. rods
=43560 sq. ft.
- 1 sq. mile
=640 acres
- 1 bushel (U. S.)
=2150.42 cu. in.
- 1 gallon (U. S.)
=231 cu. in.
- 1 gallon (British)
=277.463 cu. in.
- 1 pound av.
=7000 grains
- Spec. grav. of mercury=13.6
- 1 cu. ft. of water weighs 62.4 lbs.
- 1 cu. ft. dry air (32° F., 30 in.) weighs .0807 lbs.
- Veloc. of sound in air
=1090 ft./sec.
- Veloc. of light in vacuum=
186 000 mi./sec.
- Earth's radii:
3963 mi., 3950 mi.
- Earth's density (water=1)=5.5

- 1 meter=39.37 in.=3.2808 ft.
- 1 kilometer=0.62137 mi.
- 1 hectare=10000 sq. meters=2.471 acres
- 1 cu. meter=1.3079 cu. yds.
- 1 liter=1000 cu. cm.=0.2642 gal. (U. S.)
- 1 kg.=2.2046 lbs. 1 gm.=15.432 grains
- 1 kg./sq. cm.=14.22 lbs./sq. in.=0.968 atmos (1 atmo=1.033 kg./sq. cm.=760 mm. of Hg)
- 1 kilogram meter=7.233 ft. lbs.
- 1 kilowatt=1.341 horse-power
- $g=981 \text{ cm./sec.}^2=977.99+5.22 \sin^2 (\text{lat.})$
- 1 inch=2.5400 cm. 1 ft.=0.3048 m.
- 1 mile=1.60935 kilometers
- 1 acre=0.4047 hectares
- 1 cu. yd.=0.76456 cu. meters
- 1 gallon (U. S.)=3.785 liters
- 1 lb.=0.4536 kg. 1 grain=0.0648 gm.
- 1 lb./sq. in.=0.0703 kg./sq. cm.=0.680 atmos (1 atmo=14.70 lbs./sq. in.=29.92 in. of Hg)
- 1 ft. lb.=0.1383 kilogram meters
- 1 H. P.=550 ft. lbs./sec.=746 watts
- $g=32.2 \text{ ft./sec.}^2=32.087+0.171 \sin^2 (\text{lat.})$
- Mass (Earth=1):
Sun, 334 000;
Moon, 0.0123
- Distance of
Sun,
93 000 000 mi.,
Moon,
240 000 mi.

